ORDER NO. KM40311287C2

# Service Manual

## Telephone Equipment

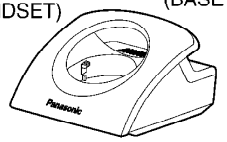
## KX-TCD530SLM / KX-TCA151EXM

### Digital Cordless Phone
### Metallic Grey Version
### (for Switzerland)

Caller ID Compatible

KX-TCA151EXM
(CORDLESS HANDSET)

KX-TCD530SLM
(BASE UNIT)



(CHARGER UNIT)

**Configuration for each model**

| Model No | Base Unit | Cordless Handset | Charger Unit |
|---|---|---|---|
| KX-TCD530 | 1 | 1(TCA151) | 1 |
| KX-TCA151 | | 1 | 1 |

KX-TCA151 is also an optional accessory, which contains a cordless handset and a charger.

## SPECIFICATIONS

**SPECIFICATION**

| | |
|---|---|
| Standard: | DECT= (Digital Enhanced Cordless Telecommunications) GAP=(Generic Access Profile) |
| Number of channels: | 120 Duplex Channels |
| Frequency range: | 1.88 GHz to 1.9 GHz |
| Duplex procedure: | TDMA (Time Division Multiple Access) |
| Channel spacing: | 1728 kHz |
| Bit rate spacing: | 1152 kbit/s |
| Modulation: | GFSK= (Gaussian Frequency Shift Keying) |
| RF Transmission Power: | approx. 250 mW |
| Voice coding: | ADPCM 32 kbit/s |
| Operation range: | Up to 300 m outdoors, Up to 50 m indoors |
| Analog telephone connection: | Telephone Line |

| | |
|---|---|
| Power source: | AC Adaptor (220 V - 240 V AC, 50 Hz) |
| Power consumption, Base Unit: | Standby: Approx. 2.6 W/Maximum: Approx. 9.2 W |
| Charger Unit: | Standby: Approx. 2.3 W/Maximum: Approx. 6.8 W |
| Battery life, Cordless Handset (if batteries are fully charged): | Stand-by: Up to 120 hours (Ni-MH) Talk: Up to 10 hours (Ni-MH) |
| Operating conditions: | 5 - 40 °C, 20 - 80 % relative air humidity (dry) |
| Dimensions, Base Unit (D x W x L): | 53 mm x 205 mm x 197 mm |
| Dimensions, Cordless Handset (D x W x L): | 143 mm x 48 mm x 32 mm |
| Dimensions, Charger Unit (D x W x L): | 60 mm x 86 mm x 84 mm |
| Weight, Base Unit: | about 670 g |
| Weight, Cordless Handset: | about 125 g |
| Weight, Charger Unit: | about 113 g |
| Connection jack: | RJ11 to Switzerland Plug |

Specifications are subject to change.
The illustrations used in this manual may differ slightly from the original device.

**IMPORTANT INFORMATION ABOUT LEAD FREE, (PbF), SOLDERING**
If lead free solder was used in the manufacture of this product the printed circuit boards will be marked PbF.
Standard leaded, (Pb), solder can be used as usual on boards without the PbF mark.
When this mark does appear please read and follow the special instructions described in this manual on the use of PbF and how it might be permissible to use Pb solder during service and repair work.

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**⚠ WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

When you note the serial number, write down all 11 digits. The serial number may be found on the bottom of the unit.

Panasonic

# 1. ABOUT LEAD FREE SOLDER (PbF: Pb free)

**Note:**
**In the information below, Pb, the symbol for lead in the periodic table of elements, will refer to standard solder or solder that contains lead.**
**We will use PbF solder when discussing the lead free solder used in our manufacturing process which is made from Tin (Sn), Silver (Ag), and Copper (Cu).**
**This model, and others like it, manufactured using lead free solder will have PbF stamped on the PCB. For service and repair work we suggest using the same type of solder although, with some precautions, standard Pb solder can also be used.**

**Caution**

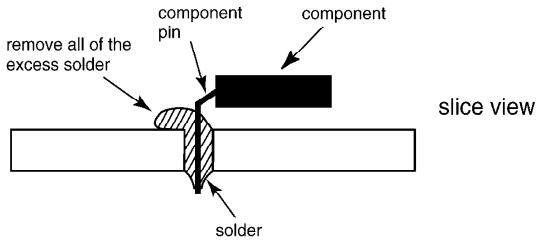
**- PbF solder has a melting point that is 50°F ~70°F (30°C ~ 40°C) higher than Pb solder. Please use a soldering iron with temperature control and adjust it to 700°F ± 20°F (370°C ± 10°C). In**

**case of using high temperature soldering iron, please be careful not to heat too long.**

**- PbF solder will tend to splash if it is heated much higher than its melting point, approximately 1100°F (600°C).**

**- If you must use Pb solder on a PCB manufactured using PbF solder, remove as much of the original PbF solder as possible and be sure that any remaining is melted prior to applying the Pb solder.**

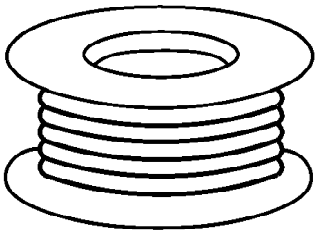
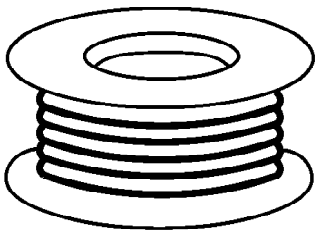
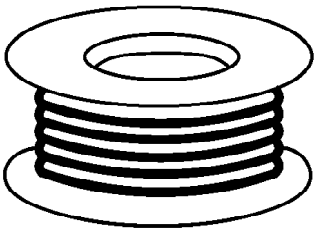
**- When applying PbF solder to double layered boards, please check the component side for excess which may flow onto the opposite side (See the figure below).**




## 1.1. Suggested PbF Solder

**There are several types of PbF solder available commercially. While this product is manufactured using Tin, Silver, and Copper (Sn+Ag+Cu), you can also use Tin and Copper (Sn+Cu) or Tin, Zinc, and Bismuth (Sn+Zn+Bi). Please check the manufac turer's specific instructions for the melting points of their products and any precautions for using their product with other materials.**

**The following lead free (PbF) solder wire sizes are recommended for service of this product: 0.3mm, 0.6mm and 1.0mm.**

| 0.3mm X 100g | 0.6mm X 100g | 1.0mm X 100g |
|---|---|---|
|  |  |  |

## 1.2. How to recognize that Pb Free solder is used

### 1.2.1. Base Unit PCB

#### 1.2.1.1. Main

(Component View)

(Flow Solder Side View)

#### 1.2.1.2. Operation

(Component View)

(Flow Solder Side View)

**Note:**
**The location of the “PbF“ mark is subject to change without notice.**

### 1.2.2. Cordless Handset PCB

(Component View)

(Flow Solder Side View)

**Note:**
**The location of the “PbF“ mark is subject to change without notice.**

### 1.2.3. Charger Unit PCB

**Note:**
**The location of the “PbF“ mark is subject to change without notice.**

# 2. FOR SERVICE TECHNICIANS

**ICs and LSIs are vulnerable to static electricity.**

**When repairing, the following precautions will help prevent recurring malfunctions.**

**1. Cover the plastic parts boxes with aluminum foil.**

**2. Ground the soldering irons.**

**3. Use a conductive mat on the worktable.**

**4. Do not touch IC or LSI pins with bare fingers.**

# 3. CAUTION

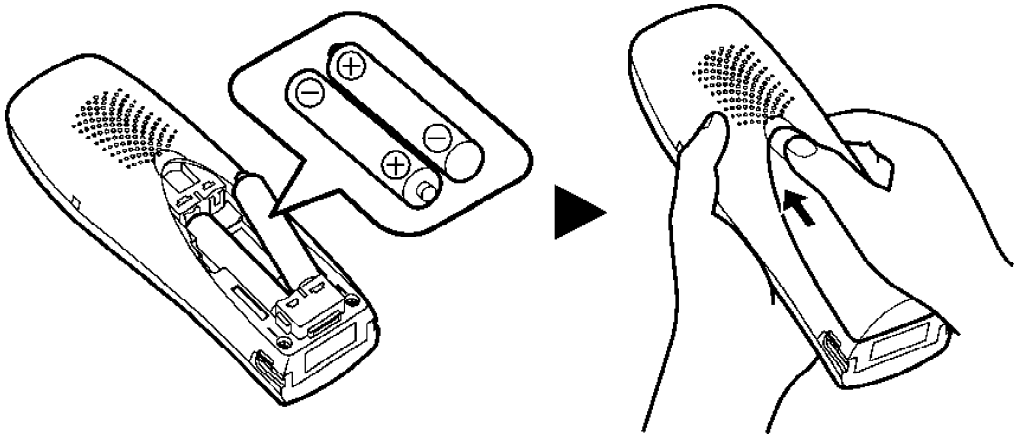
**Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommendenced by the manufacturer.**
**Dispose of used batteries according to the manufacture’s Instructions.**

# 4. BATTERY

## 4.1. Battery Installation

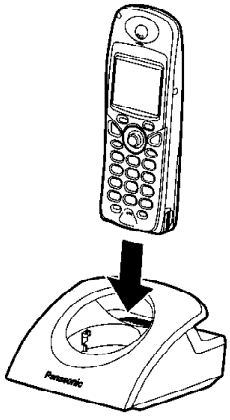
**Please ensure the batteries are inserted as shown. ⊖ part should be inserted first.**
**Close the cover as indicated by the arrow.**

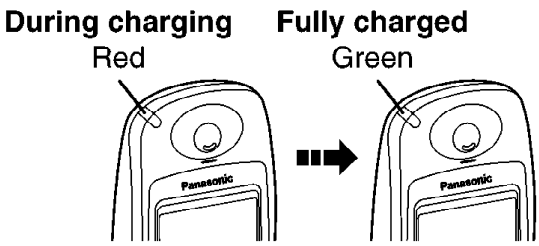
**- When you replace the batteries, ⊕ part should be removed first.**



## 4.2. Battery Charge

**At the time of shipment, the batteries are not charged. To charge, place the cordless handset on the charger.**
**Please charge the batteries for about 7 hours before initial use. During charging, the charge LED will light as shown below.**






| Display icon | Battery strength |
|---|---|
| | High |
| | Medium |
| | Low |
| | Needs to be charged |

**The cordless handset which power is off will be turned on automatically when it is placed on the charger.**
**The cordless handset will not operate while it is on the charger.**

**If the handset display flashes** **when the cordless handset is lifted off the charger, please charge the cordless handset batteries at least 15 minutes.**

**Note for Service:**

**- The battery strength may not be indicated correctly if the battery is disconnected and connected again, even after it is fully charged. In that case, by recharging the battery as mentioned above, you will get a correct indication of the battery strength.**

**- Confirmation of Antenna Pict ( ) indication:**
**If Antenna Pict is indicated, charge time is about 7 hours. However, if Antenna Pict is flashing, charge time becomes long.**

## 4.3. Battery Information

**After your Panasonic battery is fully charged:**

**Ni-MH Batteries (typical 700 mAh)**

| Operation | Operating Time |
|---|---|
| While in use (TALK) | 10 hrs approx. |
| While not in use (Standby) | 120 hrs approx. |

**Ni-Cd Batteries (typical 250 mAh)**

| Operation | Operating Time |
|---|---|
| While in use (TALK) | 4 hrs approx. |
| While not in use (Standby) | 40 hrs approx. |

**- Times indicated are for peak performance.**

**- The battery operating time may be shortened depending on usage conditions and ambient temperature.**

**- Clean the charge contacts of the cordless handset and the charger with a soft, dry cloth. Clean if the unit is subject to grease, dust or high humidity.**
**Otherwise the battery may not charge properly.**

**- The batteries cannot be overcharged unless they are repeatedly removed and replaced.**

**- For maximum battery life, it is recommended that the cordless handset not be recharged until the battery icon flashes .**

## 4.4. Replacing the Batteries

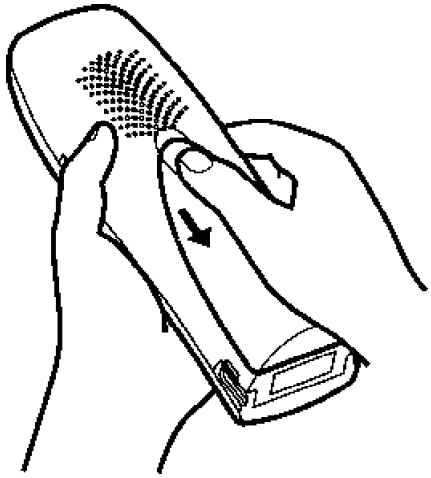
**If the icon flashes after a few telephone calls even when the cordless handset batteries have been fully charged, both batteries must be replaced.**

**- Charge new batteries for approximately 7 hours before initial use.**

**- When replacing the batteries, be sure to set up the battery type even if you install the same type of batteries to initialise battery remaining memory of your cordless handset.**

**- Do not use non-rechargeable batteries. If non-rechargeable batteries are installed and start charging, battery electrolyte may leak from the unit.**

**- Open the battery cover by pressing down firmly on the notch and sliding it as indicated by the arrow below.**

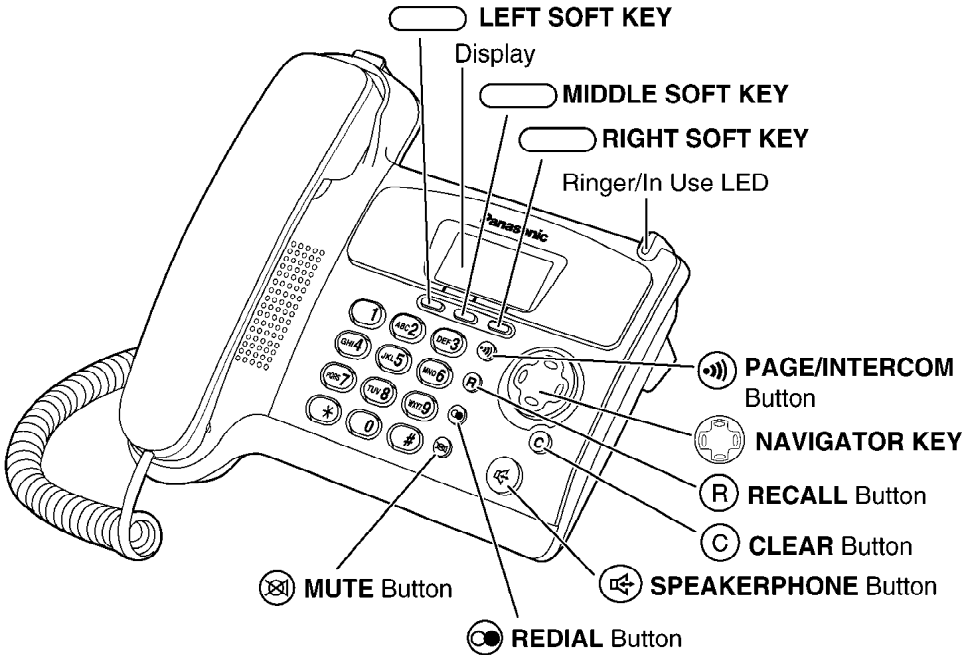


**Replace both batteries and close the cover. Charge the cordless handset for about 7 hours.**
**Please order Panasonic P03P (Ni-MH) or P03H (Ni-Cd) batteries.**
**Note for Service:**

**- When Ni-Cd batteies are littled with the "BATTERY TYPE" setting in "Ni-MH", icon might disappear and stop charging even if the handset is on the cradle for avoiding overcharge.**

# 5. LOCATION OF CONTROLS

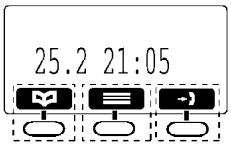
## 5.1. Base Unit




### How to Use the Base Unit Soft Keys

The 3 soft keys are used to select functions displayed directly above the keys. Functions displayed above the keys will change depending on the state of use. For example, on the standby mode display, "[ ]", "[ ]" and "[ ]" are displayed above the soft keys.

**Example:** Standby Mode Display




To operate "[ ]" (**Phonebook**), press **LEFT SOFT KEY**.

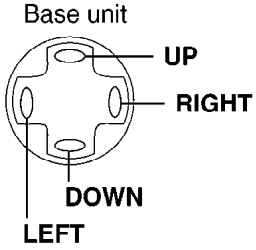
To operate "[ ]" (**Menu**), press **MIDDLE SOFT KEY**.

To operate "[ ]" (**Caller ID List**), press **RIGHT SOFT KEY**.

When "[ ]" is displayed above a soft key, the soft key has no function.

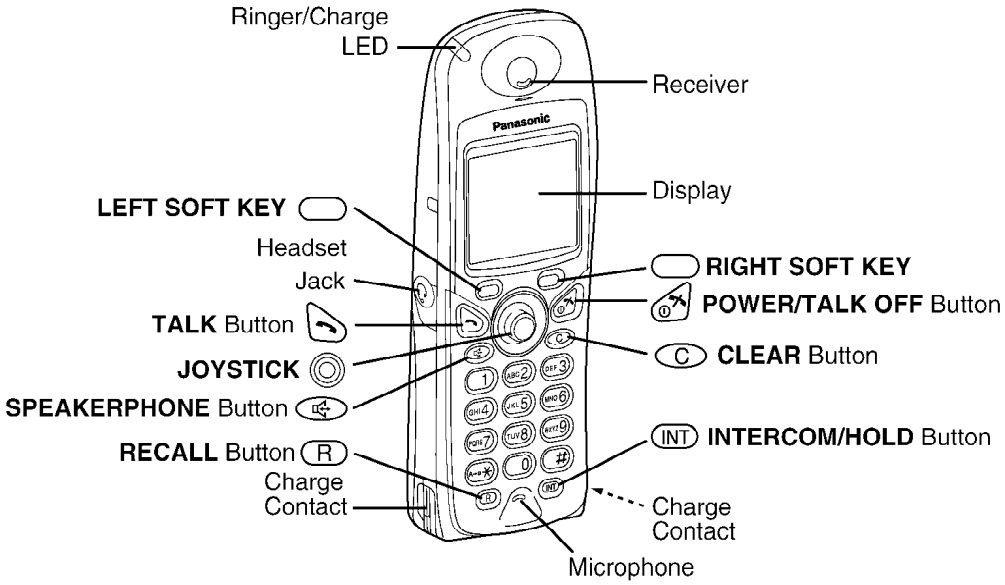
### How to Use the Navigator Key

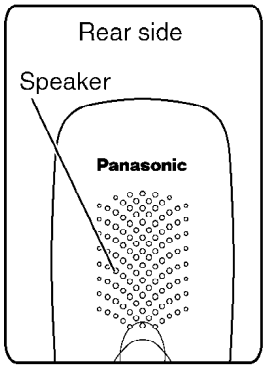
This key has four active areas.




| | |
|---|---|
| **UP** | • Scrolls up through function menu, Caller List and the Base Unit Phonebook.<br>• Increases the volume. |
| **DOWN** | • Scrolls down through function menu, Caller List and the Base Unit Phonebook.<br>• Decreases the volume. |
| **RIGHT** | • Selects your menu choices. |
| **LEFT** | • Returns to the previous display. |

## 5.2. Cordless Handset

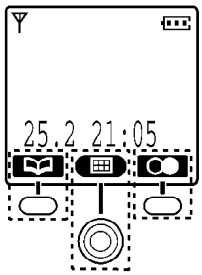



**How to Use the Cordless Handset Soft Keys**

The 3 soft keys are used to select functions displayed directly above the keys.
Functions displayed above the keys will change depending on the state of use.
For example, on the standby mode display, "", "", "" are displayed above the soft keys.

**Example:** Standby Mode Display




To operate "" (**Phonebook**), press **LEFT SOFT KEY.**

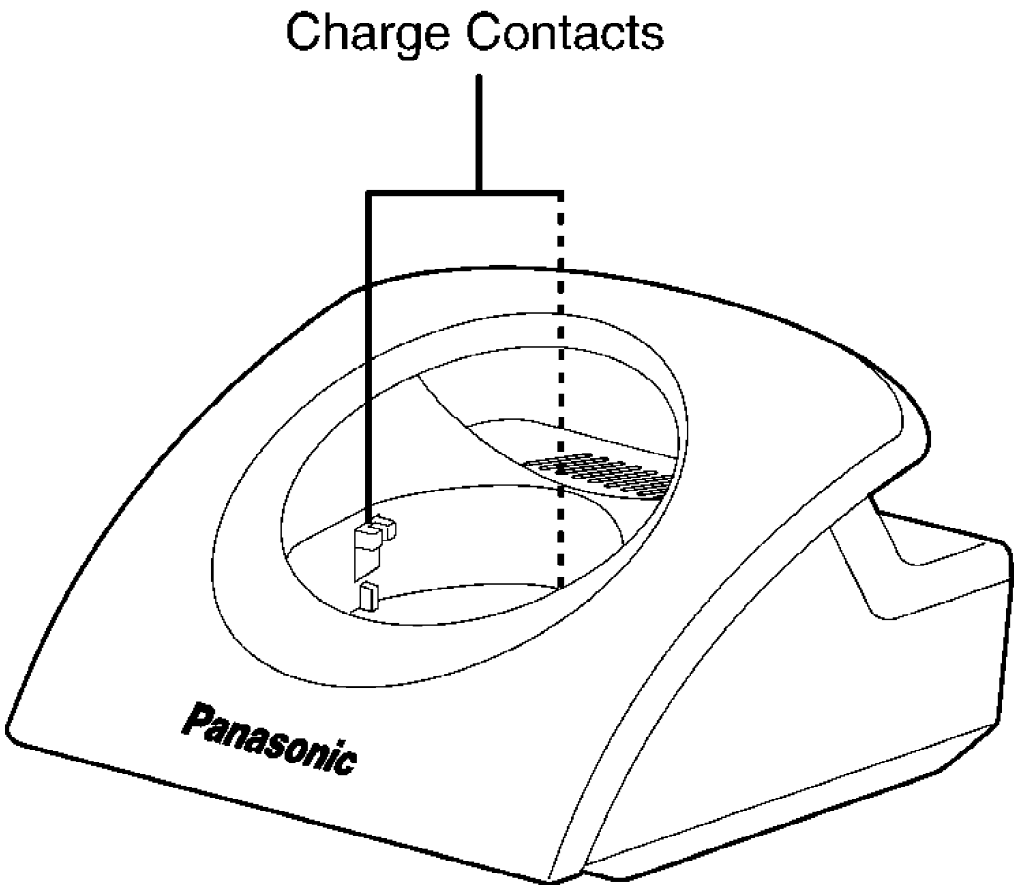
To operate "" (**Menu**), press the centre of the **JOYSTICK**, used as the middle soft key.

To operate "" (**Redial**), press **RIGHT SOFT KEY.**

When "" is displayed above a soft key, the soft key has no function.

- "" (**Menu**) can be selected when in the standby mode by moving **JOYSTICK** up, down, left or right.

## 5.3. Charger Unit




## 5.4. Icons above SOFT KEYS

### 5.4.1. Base Unit

| Icons | Functions | Icons | Functions |
|---|---|---|---|
| | Go Back | | Delete |
| | Menu | P | Pause |
| OK | OK | | Intercom/Paging |
| | Phonebook | | Caller ID List |
| | No Function | | |

### 5.4.2. Cordless Handset

| Icons | Functions | Icons | Functions |
|---|---|---|---|
| | Go Back | ABC | Alphabet |
| | Menu | 0-9 | Numeric |
| | Sub-Menu | АВГ | Greek |
| OK | OK | ÄÄÄ | Extended 1 |
| | Redial | ŠŠŠ | Extended 2 |
| | Phonebook | АБВ | Russian |
| | New Phonebook | √ | Select |
| | Search | P | Pause |
| | Key Lock | | Mute |
| 12/24 | 12/24 Hour Clock | X | Delete |
| | No Function | | |

# 6. SETTINGS

**For your Information**

**Throughout these Service Manuals, Cordless Handset and Base Unit are used to indicate with which unit an operation can be performed.**
**Cordless Handset: Perform with cordless handset.**
**Base Unit: Perform with the base unit.**
**Cordless Handset/Base Unit: perform with the cordless handset or base unit separately.**
**Cordless Handset and Base Unit: Perfrom with the cordless handset and base unit together.**

**Enviroment**

**Do not use this unit near water. This unit should be kept away from heat sources such as radiators, cookers, etc. It should also not be placed in rooms where the temperature is less than 5°C or greater than 40°C.**
**The AC adaptor is used as the main disconnect device. Ensure that the AC outlet is located/ installed near the unit and is accessible.**

**Location**

**- For maximum distance and noise-free operation, place your base unit:**
**- Away from electrical appliances such as TVs, radios, personal computers or other phones.**
**- In a convenient, high, and central location.**

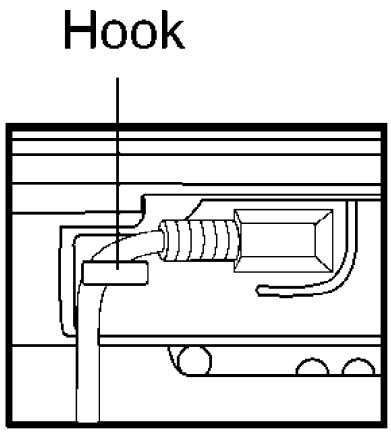
## 6.1. Connection

**The unit will not work during a power failure. We recommend you connect a standard telephone**

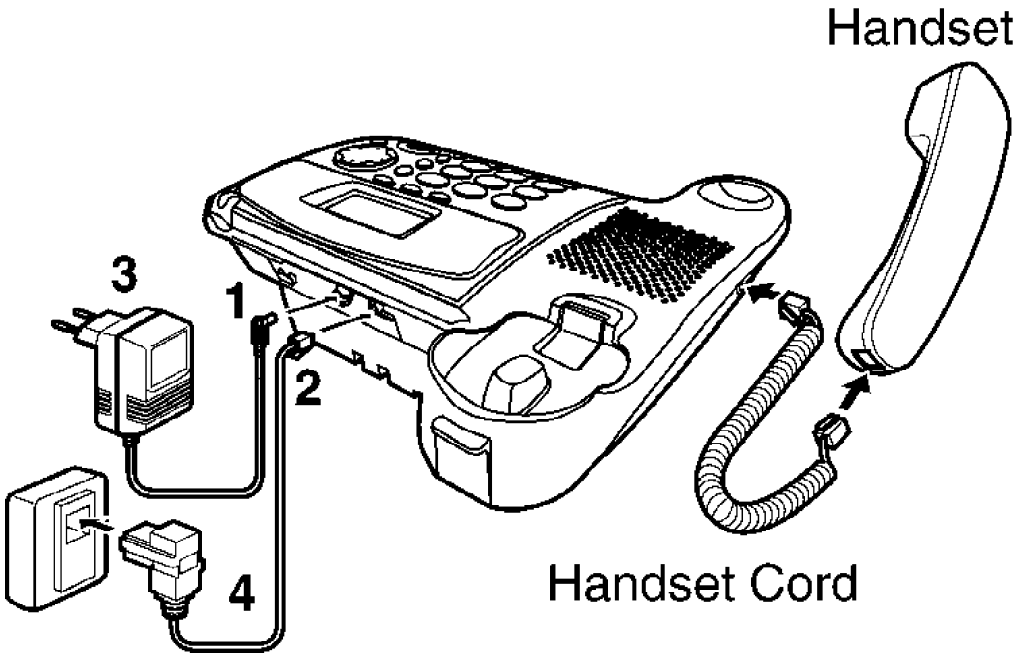
**on the same line for power protection.**

### 6.1.1. Base Unit

**Plug in the AC adaptor and the telephone line cord in order 1, 2, 3, 4.**
**The cords can be hidden from view when using the base unit on a desktop by tucking them under the wall mounting adaptor.**



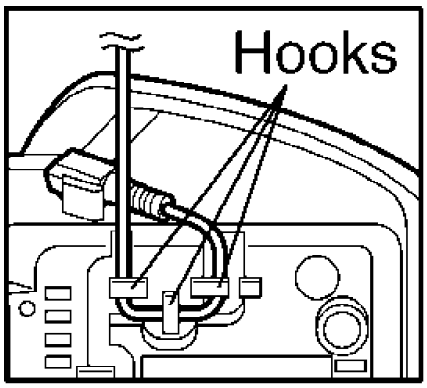

Fasten the AC adaptor cord to prevent it from being disconnected.



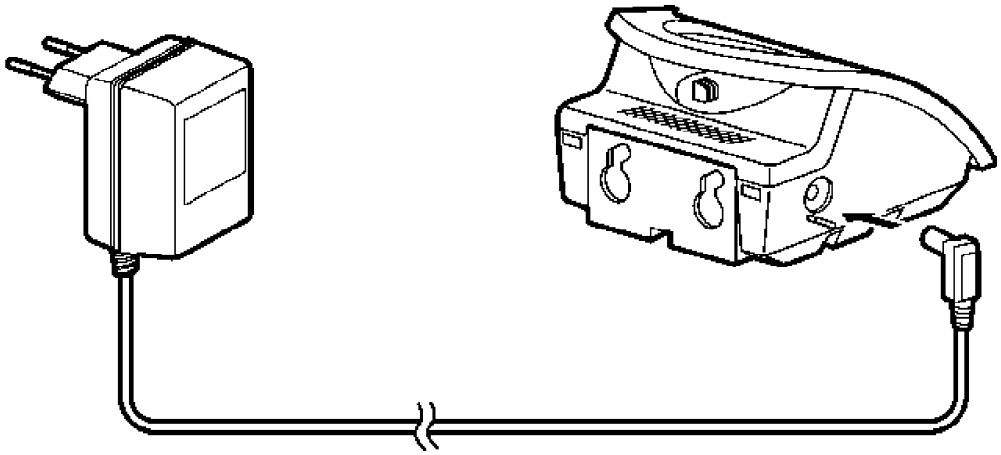

**- The AC adaptor must remain connected at all times (It is normal for the adaptor to feel warm during use).**
**- Never install telephone wiring during a lightning storm.**
**- USE ONLY WITH Panasonic AC ADAPTOR PQLV19CEZ.**

### 6.1.2. Charger Unit

**The batteries must be fully charged before initial use of the cordless handset.**



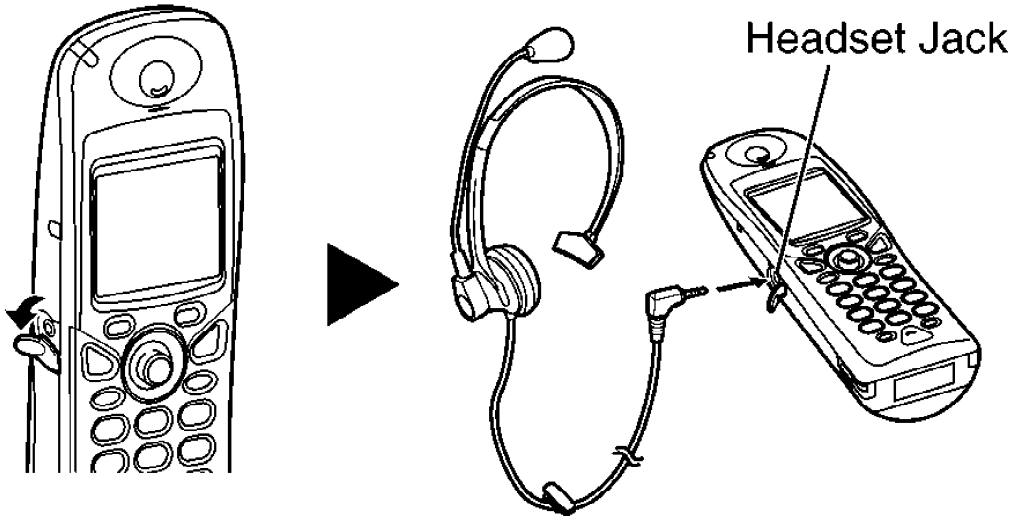

Fasten the AC adaptor cord to prevent it from being disconnected.



**- The AC adaptor must remain connected at all times (It is normal for the adaptor to feel warm during use).**
**- USE ONLY WITH Panasonic AC ADAPTOR PQLV200CEZ.**

### 6.1.3. Optional Headset

**Plugging an optional headset into the cordless handset allows hands-free phone conversations. Please use only the Panasonic KX-TCA89EX headset. While using the headset, speakerphone is not available. To switch to speakerphone, disconnect the headset.**
**Connecting the Optional Headset to the Cordless Handset**
**Open the headset jack cover, and connect the optional headset to the headset jack as shown.**

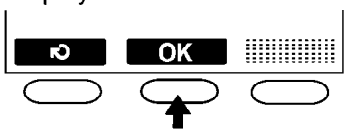
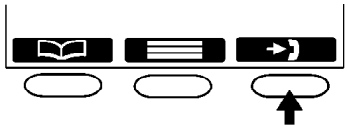
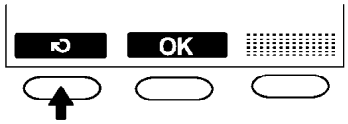



## 6.2. Symbols Used for Operations

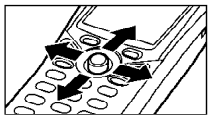
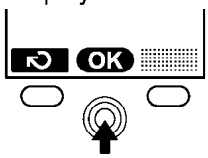
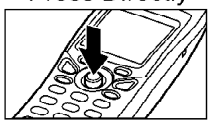
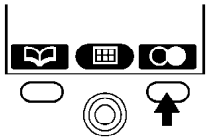
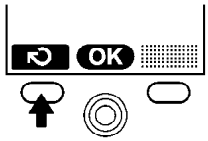
### 6.2.1. Base Unit/Cordless Handset

| Symbol | Meaning |
|---|---|
| ➧ | Go to the next step. |
| “ ” | The words in “ ” indicate the text shown on the display. |
| | The phone is ringing. |

### 6.2.2. Base Unit

| Symbol | Meaning | |
|---|---|---|
| | Press **NAVIGATOR KEY** up or down.<br>e.g., Search for the desired item. | |
| e.g., OK<br> | e.g., Display of menu items<br>  | Press **MIDDLE SOFT KEY**.<br><br>In this example, the desired item is selected. |
| e.g., Caller ID List<br> | e.g., Standby Mode Display<br>  | Press **RIGHT SOFT KEY**.<br><br>In this example, the newest caller information is displayed. |
| e.g., Go Back<br> | e.g., Display of menu items<br>  | Press **LEFT SOFT KEY**.<br><br>In this example, the display returns to the previous menu. |

### 6.2.3. Cordless Handset

| Symbol | Meaning | |
|---|---|---|
| | Move the **JOYSTICK** up, down, left or right.<br>e.g., Search for the main menu.<br>  | |
| e.g., OK<br> | e.g., Display of menu items<br>  | Press **JOYSTICK** directly in the centre.<br><br>In this example, the desired item is selected.<br>Press Directly<br>  |
| e.g., Redial<br> | e.g., Standby Mode Display<br>  | Press **RIGHT SOFT KEY**.<br><br>In this example, the telephone number last dialled is displayed. |
| e.g., Go Back<br> | e.g., Display of menu items<br>  | Press **LEFT SOFT KEY**.<br><br>In this example, the display returns to the previous menu.<br><br>C has the same function as Go Back. |
| | Press **POWER/TALK OFF** Button.<br>**Press this button once or twice, depending on the state of use to ruturn the display to standby mode.** | |

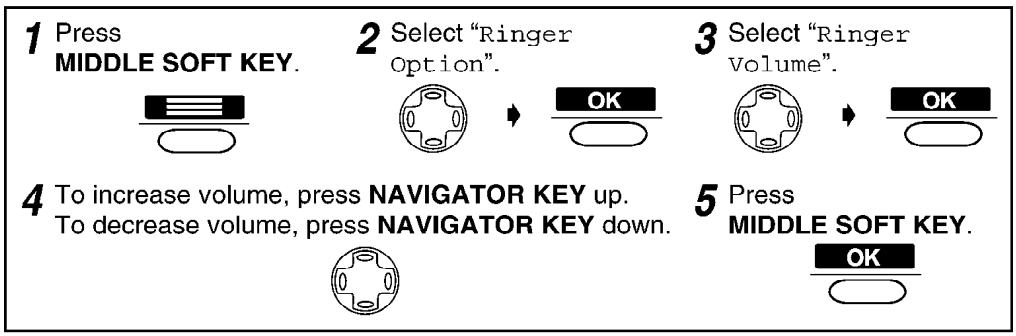
## 6.3. Setting the Ringer Volume

### 6.3.1. Base Unit

The choices for the base unit ringer volume are 3 levels and off.

If you set the volume to OFF, "🔕" is displayed.

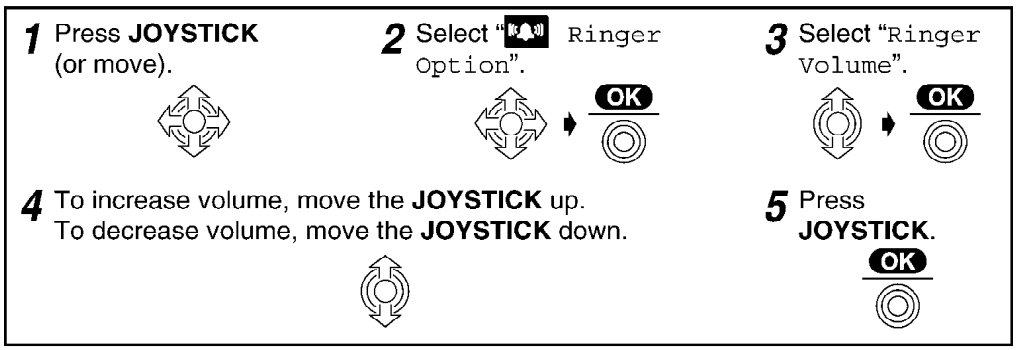
To exit the operation, press (C) at any time.


1 Press MIDDLE SOFT KEY.
2 Select "Ringer Option".
OK
3 Select "Ringer Volume".
OK
4 To increase volume, press NAVIGATOR KEY up.
To decrease volume, press NAVIGATOR KEY down.
5 Press MIDDLE SOFT KEY.
OK

- The factory preset is medium.

### 6.3.2. Cordless Handset

The choices are 6 levels and off. If you set the volume to OFF, "🔕" is displayed, however, the volume of a paging and intercom call is still at level 1.




- The factory preset is 6.

## 6.4. Settings Menu Chart

### 6.4.1. Base Unit

| 1st Menu | 2nd Menu | 3rd Menu |
|---|---|---|
| Setting Base | Call Option | Recall |
| | | Pause Time |
| | | Emergency Call |
| | | Set ARS |
| | | Call Restricted |
| | Cancel Handset | |
| | Other Option | Change Base PIN |
| | | Reset Base |

### 6.4.2. Cordless Handset

| 1st Menu | 2nd Menu | 3rd Menu |
|---|---|---|
| Setting Handset | Set Date/Time | |
| | Memo Alarm | |
| | Ringer Option | Ringer Volume |
| | | EXT Ringer Type |
| | | INT Ringer Type |
| | | Paging Tone |
| | | Private Ring |
| | Tone Option | Key Tone |
| | Display Option | Standby Display |
| | | Talk Display |
| | | Select Language |
| | | Private Colour |
| | | Category Name |
| | Call Option | Call Bar |
| | | Direct Call No. |
| | | Direct On/Off |
| | Registration | Register H/set |
| | | Cancel Base |
| | Select Base | Auto |
| | | Base 1<br>⋮<br>Base 4 |
| | Other Option | Change H/S PIN |
| | | Change H/S Name |
| | | Auto Talk |
| | | Battery Type |
| | | Reset Handset |

## 6.5. PIN Code

### 6.5.1. Base Unit

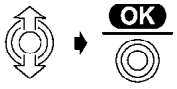
To exit the operation, press at any time.

**1** Press **JOYSTICK** (or move).

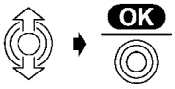
**2** Select "Setting Base".

**3** Enter 4-digit Base Unit PIN. * (Factory Preset 0000)

**4** Select "Other Option".




**5** Select "Change Base PIN".




**6** Enter new 4-digit Base Unit PIN.

**7** Enter new PIN again to verify.

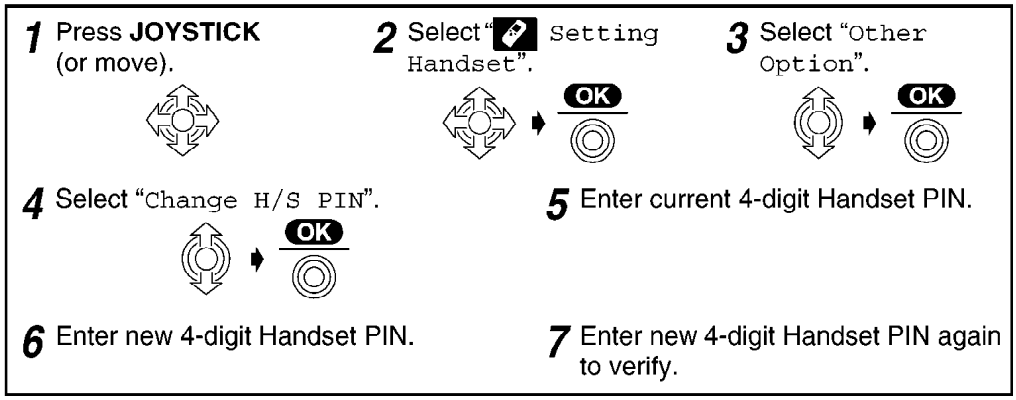
**For Service Hint:**

*** : If the current 4-digit Base Unit PIN is forgotten, follow the procedures below.**

1. **If Base Unit and Handset are not linked with, first, follow the steps in Cordless Handset Registration to a Base Unit ().**
2. **Follow the steps above in Base Unit () of PIN Code. At step 3, enter * 7 0 0 0, and you will able to enter new Base Unit PIN.**

### 6.5.2. Handset

To exit the operation, press at any time.


1 Press JOYSTICK (or move).
2 Select "Setting Handset".
OK
3 Select "Other Option".
OK
4 Select "Change H/S PIN".
OK
5 Enter current 4-digit Handset PIN.
6 Enter new 4-digit Handset PIN.
7 Enter new 4-digit Handset PIN again to verify.

**For Service Hint:**

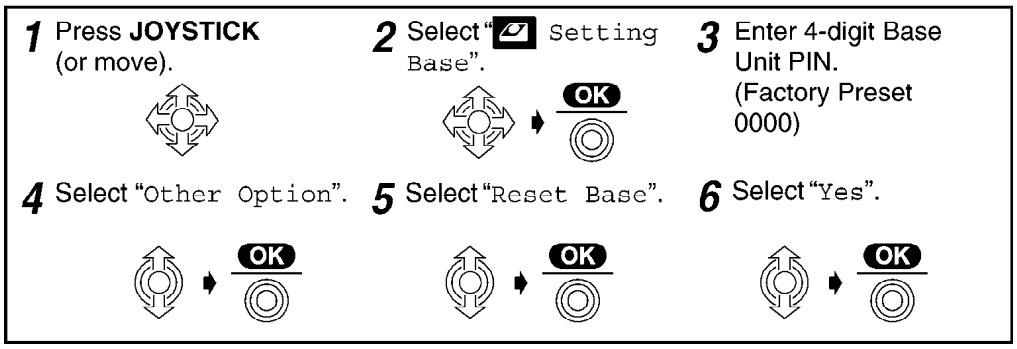
*** : If the current 4-digit PIN is forgotten, press * 7 0 0 0 and you will be able to enter new Handset PIN.**
**This password is useful whether Base Unit and Handset are linked with or not.**

## 6.6. Reset the Settings

### 6.6.1. Base Unit

**You can reset all of the base unit settings to their initial settings.**

To exit the operation, press at any time.




**Initial Settings for Base Unit**

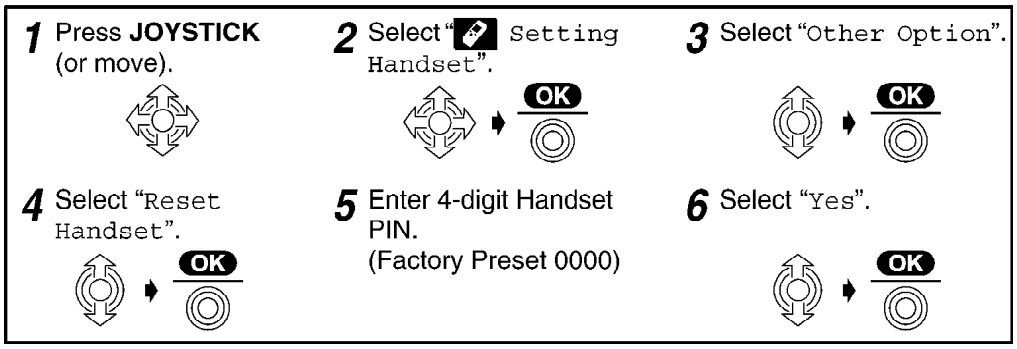
| Function | Initial Setting | Remarks (selectable |
|---|---|---|
| 4-Digit Base Unit PIN | 0000 | - |
| Base Unit External Ringer Pattern | 1 | 1 to 6 |
| Base Unit Receiver Volume | Medium | High / Low / Medium / |
| Call Bar Mode | OFF | ON / OFF |
| Display Language | Deutsch | - |
| Redial Memory | Delete All | - |
| Phonebook List | Remain | - |
| Caller ID List | Delete All | - |
| Carrier Code | Delete All | - |
| Area Code | Delete All | - |
| Relation of Area Code | Delete All | - |
| Date/Time | 31-12-03/00:00 | - |

**- All of the other base unit settings are cleared or turned to their factory preset when you reset the base unit settings.**

### 6.6.2. Cordless Handset

**You can reset all of the handset settings to their initial settings.**

To exit the operation, press at any time.




**Initial Settings for Cordless Handset**

| Functions | Initial Settings | Remarks (selectable |
|---|---|---|
| **Display Language** | **German** | **-** |
| **4-Digit Handset PIN** | **0000** | **-** |
| **Phonebook List** | **Remain** | **-** |
| **Select Base** | **Automatic Base Unit Selection** | **-** |
| **Redial Memory** | **Delete All** | **-** |
| **Walkie-Talkie Setting** | **Group** | **-** |
| **Private Colour** | **Green** | **Green / Red / Orange** |
| **Category Name** | **Remain** | **-** |
| **Handset Name** | **Remain** | **-** |
| **Date/Time** | **Remain** | **-** |

**- All of the other handset settings are cleared or turned to their factory preset when you reset the handset settings.**

## 6.7. Key Lock

You lock the cordless handset dialling buttons. While locked, the buttons cannot be used and therefore calls cannot be made. Incoming calls can be answered while the key lock is ON. When the key lock is ON, the menu icon changes to .

**When the key lock is ON, emergency calls cannot be made until key lock is cancelled.**

**<Key Lock ON>**

(Standby Mode Display) → Press and hold **JOYSTICK** directly for more than 2 seconds.

**<Key Lock OFF>**

Press and hold **JOYSTICK** directly for more than 2 seconds once again.

**Note for Service:**

**The key lock is cancelled if the handset is turned off.**

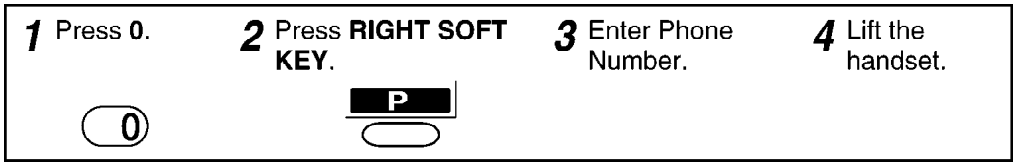
## 6.8. Recall Feature

**RECALL** (R) (on the cordless handset) or (R) (on the base unit) is used to access special telephone services. Contact your telephone company for details. If your unit is connected to a PBX, pressing (R) (on the cordless handset) or (R) (on the base unit) allows you to access certain features of your host PBX, such as transferring an extension call.

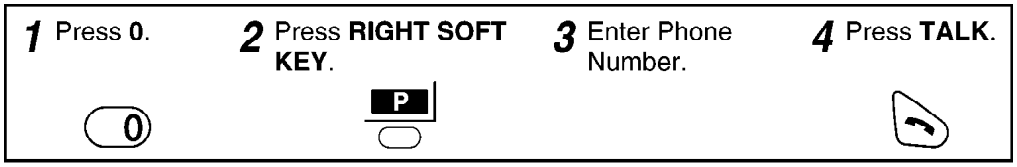
## 6.9. Dialling Pause for PBX line/long distance service users

**A dialling pause can be entered when a pause during the dialling of a phone number is necessary when using a PBX or accessing a long distance service.**
**For example, if using the unit with a PBX, a line access number (0, in this example) must be dialled before the telephone number:**

### 6.9.1. Base Unit




### 6.9.2. Cordless Handset

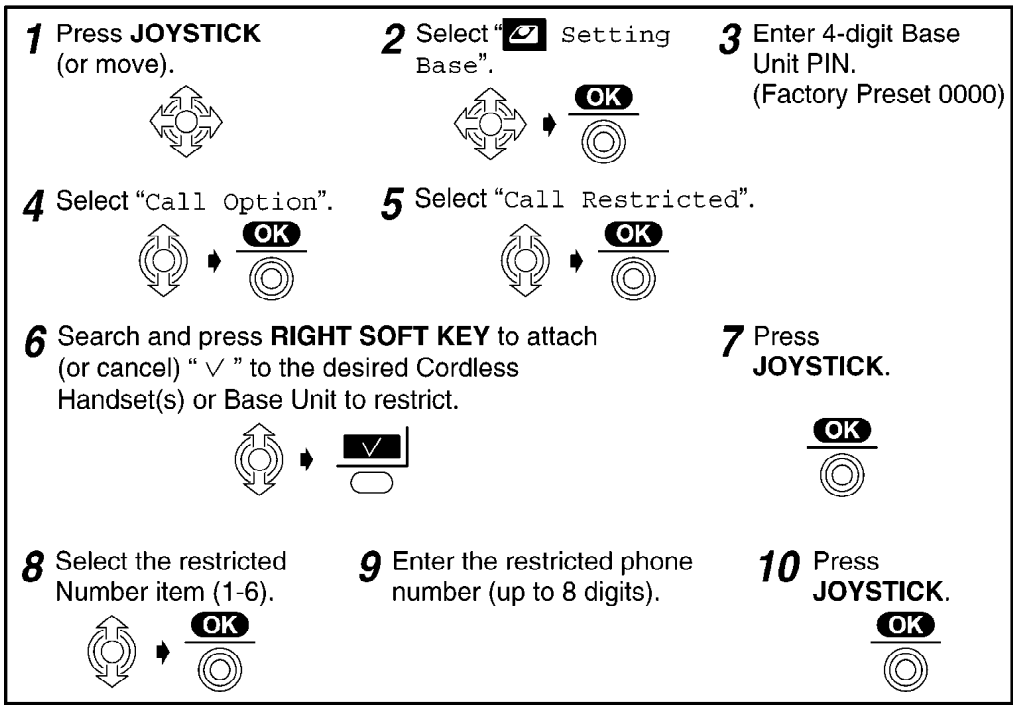



- You can also press (for cordless handset) or (for base unit) to make a call.
- Entering a pause can prevent misdialling when you redial or dial a stored number.
- Pressing **RIGHT SOFT KEY** more than once increases the length of the pause between numbers.

## 6.10. Call Restriction

**You can restrict selected cordless handset(s) or the base unit from dialling selected phone numbers. You can assign up to 6 call restriction numbers (up to 8 digits). If you dial a restricted number, the call does not connect and the restricted number flashes.**

To exit the operation, press at any time.


1 Press JOYSTICK (or move).
2 Select "Setting Base".
OK
3 Enter 4-digit Base Unit PIN. (Factory Preset 0000)
4 Select "Call Option".
OK
5 Select "Call Restricted".
OK
6 Search and press RIGHT SOFT KEY to attach (or cancel) " ✓ " to the desired Cordless Handset(s) or Base Unit to restrict.
✓
7 Press JOYSTICK.
OK
8 Select the restricted Number item (1-6).
OK
9 Enter the restricted phone number (up to 8 digits).
10 Press JOYSTICK.
OK

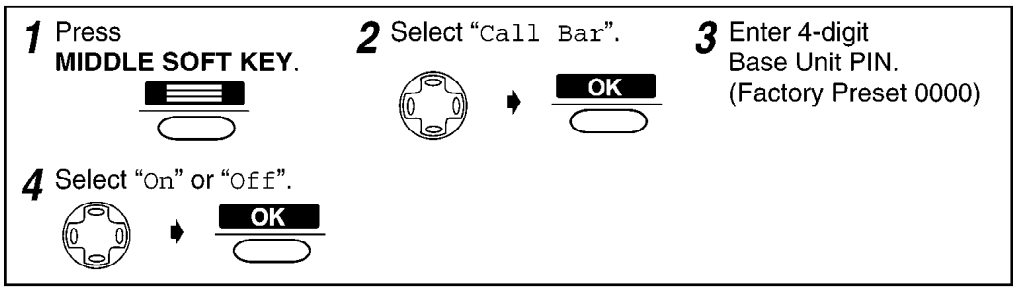
**NOTE:**
**When you put a first digit on step 9, it must overwrite the current displayed numbers. We recommend you to write down the restricted phone number you entered.**

## 6.11. Call BAR On/Off (Call Prohibition On/Off)

**When this feature is set to ON, outgoing calls cannot be made. Intercom calls and calls to numbers assigned as emergency numbers can be made.**

### 6.11.1. Base Unit

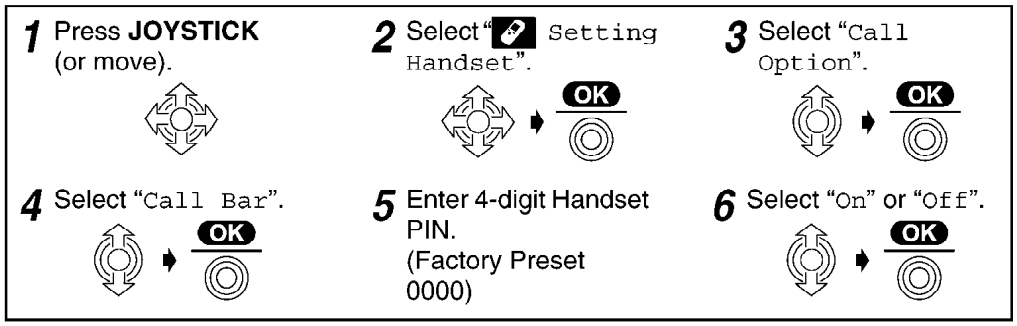
To exit the operation, press C at any time.




- The factory preset is "Off".
- While the Call Bar mode is turned on, " " is displayed.

### 6.11.2. Cordless Handset

To exit the operation, press ⏻ at any time.


1 Press JOYSTICK (or move).
2 Select "Setting Handset". OK
3 Select "Call Option". OK
4 Select "Call Bar". OK
5 Enter 4-digit Handset PIN. (Factory Preset 0000)
6 Select "On" or "Off". OK

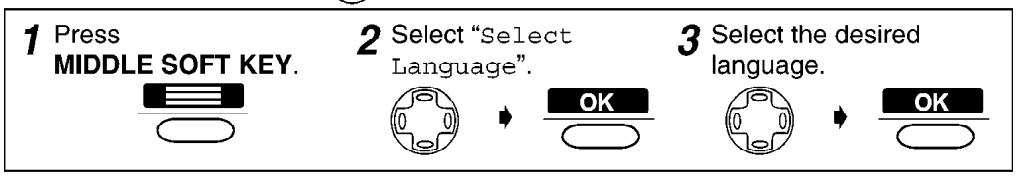
- The factory preset is "Off".
- While the Call Bar mode is turned on, "" is displayed.

## 6.12. Selecting the Display Language

**You can select one of 19 languages on the cordless handset and the base unit separately. The factory preset is German.**

### 6.12.1. Base Unit

To exit the operation, press C at any time.

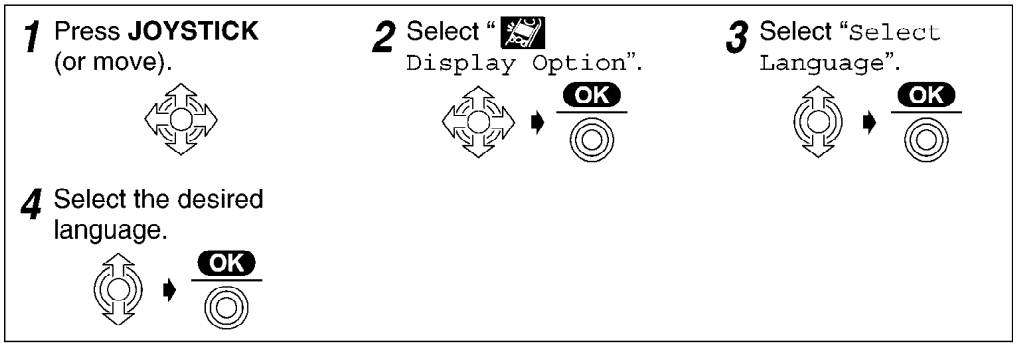



- If you set a language you cannot read, reset the display language to your desired language.

  Press ▬ ➧ Press ◉ (DOWN) twice ➧ Press OK ➧ Select the desired language ➧ Press OK.

### 6.12.2. Cordless Handset

To exit the operation, press at any time.




- If you set a language you cannot read, reset the display language to your desired language.
  Press ➧ Press ➧ Move ➧ Press ➧ Move four times ➧ Press ➧ Move twice ➧ Press ➧ Select the desired language ➧ Press .

**Note for Service:**

(for optional handset)

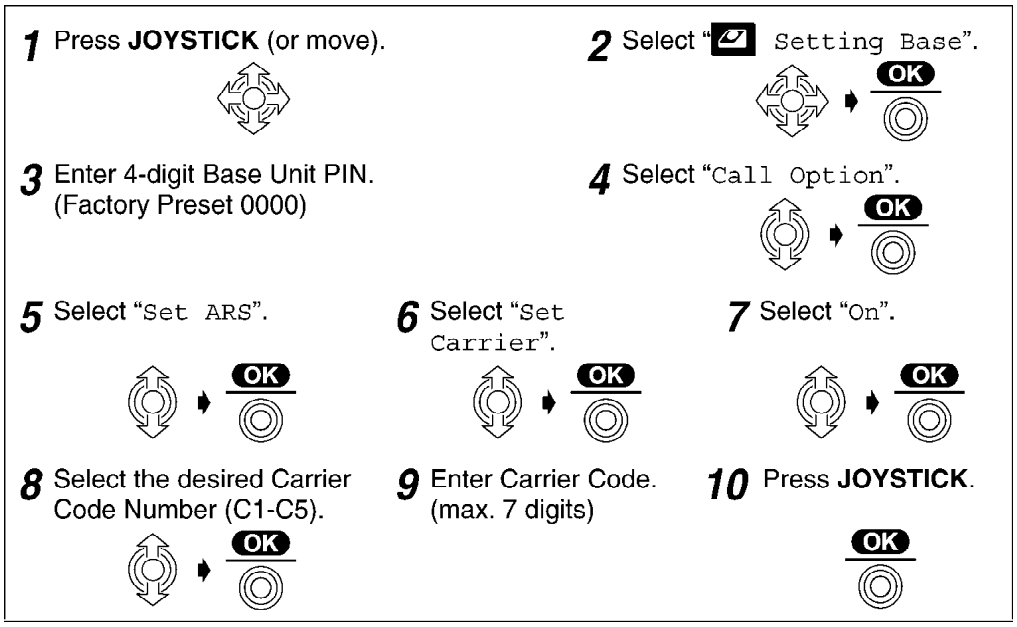
- Press ➧ Press ➧ Move ➧ Press ➧ Move four times ➧ Press ➧ Move twice ➧ Press ➧ Select the desired language by moving ➧ Press .

## 6.13. Automatic Route Selection

**Automatic Route Selection is a feature which selects the least expensive carrier (telephone company) service available, when making long distance calls.**
**When area code(s) have been related to carrier codes, you will need only dial the area code, the lower costing carrier (telephone company) will automatically be dialled.**
**Please contact your telephone company regarding the carrier telephone charges.**

### 6.13.1. Storing the Carrier Code(s)

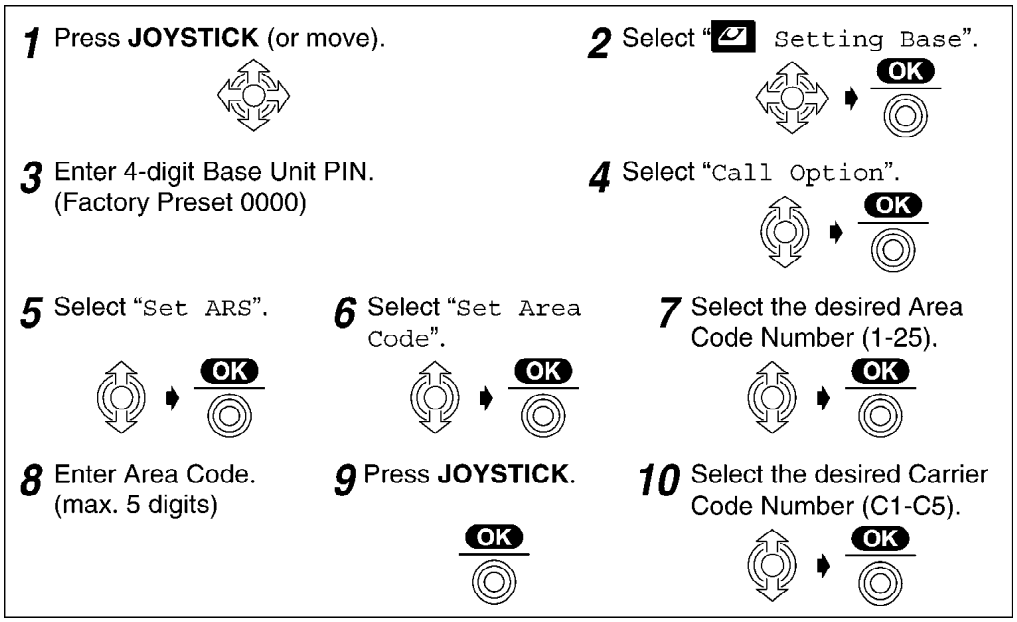
**Firstly you must subscribe to a second carrier (telephone company) service. You can subscribe to a limit of 5 carrier services. Then store the code as follows:**




- To turn the feature off, select "Off" in step 7.

### 6.13.2. Storing the Area Code(s) and Relate the Carrier Code(s)

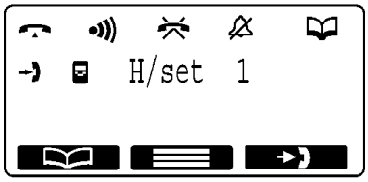
**Store the area code(s) for which the chosen carrier (telephone company) service charge rates are lower than the original carrier (telephone company) service. Up to 25 area codes can be stored. And you must relate the carrier code(s) that chosen lower costing.**

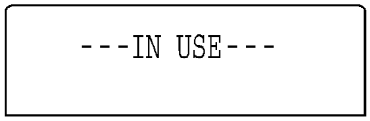



# 7. DISPLAY

## 7.1. Display Icons

### 7.1.1. Base Unit




Intercom/Paging

Making or Answering calls

Call Bar ON

Phonebook Mode

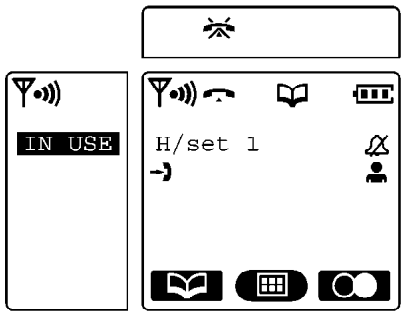
Ringer Volume OFF

New call (Caller ID only)

`---IN USE---` The line is being used by another unit.

`H/set 1` Intercom Mode
Cordless Handset Name (e.g., Cordless Handset 1)

## 7.1.2. Cordless Handset




Phonebook Mode

Battery strength

Direct Call ON

Ringer Volume OFF

Within range of a base unit

Out of range/No registration/
No power on base unit

Intercom/Paging/
While connecting with base unit

Making or Answering calls

Call Bar ON

New call (Caller ID only)

`H/set 1` Cordless Handset Name (e.g., Cordless Handset 1)

`IN USE` The line is being used by another unit.

**Main Menu Display**

To go to the **Main Menu**, press **JOYSTICK** directly in the centre (or move ) while in the standby mode display. The selected menu icon is turned over, and its title is displayed.

**Example:** "`Caller ID`" is selected.

"`Caller ID`"

"`Ringer Option`"

"`Display Option`"

"`Setting Handset`"

"`Setting Base`"

"`Walkie-Talkie`"

**For Service Hint:**

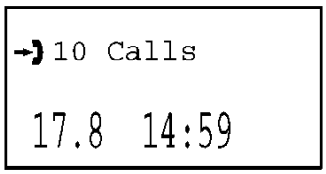
**icon will be displayed if the unit took a signal from Telephone Company as a Voice Message signal.**
**In that case, press the left button of the Navigator key for a few seconds.**

## 7.2. Caller ID Service

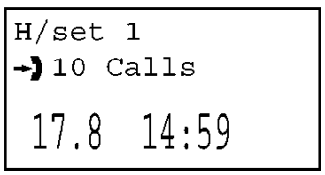
**Caller ID is a service of your telephone company and will operate only if you have subscribed to this service.**
**After subscribing to Caller ID, this phone can display the phone number of the caller when you receive a call. If the telephone number received by Caller ID is stored in the unit's phonebook along with a name, the caller's name will be displayed.**
**The last 50 caller's phone numbers are stored in the order the calls were received. When the 51st call is received, the oldest caller information is cleared. If the caller's name has been stored with the number in the phonebook (see Storing Caller Information in the Phonebook ()), the caller's name will also be displayed.**
**If your unit is connected to a PBX or a telephone line that does not support this service, you will not be able to use it.**
**When new calls have been received, the display shows the number of calls.**
**In the example below, 10 new calls have been received.**

**Standby Mode Display**

**Base Unit**




**Cordless Handset**




## 7.3. Before Requesting Help (Troubleshooting)

**If you experience any problems with the normal use of your apparatus, you should unplug it from the telephone outlet and connect a known working telephone in its place. If the known working telephone still has problems, then please contact the customer service department of your telephone company. If it operates correctly, then the problem is likely to be a fault in your apparatus. In this case, contact your supplier for advice. Your telephone company may charge you if they attend a service call that is not due to an apparatus supplied by them.**
**Turn the power OFF then ON (Cordless Handset)/Disconnect then connect the AC adaptor (Base Unit).**

| Problem | Possible cause | Solution |
|---|---|---|
| The unit does not work. | • Batteries not installed properly.<br>• AC adaptor of base unit not connected properly. | • Re-install batteries properly.<br>• Disconnect and then connect AC adaptor. |
| Display is blank. | • Cordless handset not turned on. | • Turn on power. (Refer to **Power ON/OFF**.) |
| Cordless handset will not turn on. | • Batteries not inserted.<br>• Batteries not charged. | • Insert the 2 rechargeable batteries supplied.<br>• Place cordless handset on charger and connect AC adaptor to Charger and AC outlet (full charger period 7 hrs). |
| Battery charge icon not counting up. | • Dirty charge contacts.<br>• Charger not powered up. | • Clean charge/battery contacts and retry charge.<br>• Connect AC adaptor to Charger and AC outlet. |
| icon flashes. | • Cordless handset not registered to base unit.<br>• Cordless handset out of range of base unit.<br>• No power into base unit. | • Register cordless handset to base unit.*1<br>• Move cordless handset closer to base unit.<br>• Connect AC adaptor to base unit and AC outlet. |
| Cordless handset busy tone heard when is pressed. | • Cordless handset out of range of base unit.<br>• Another unit in use. | • Register cordless handset to base unit.*2<br>• Move cordless handset closer to base unit.<br>• Wait for the other user to complete call. |
| No dial tone. | • Telephone line not connected. | • Insert telephone line cord to network.<br>• Turn power OFF then ON. (Refer to **Power ON/OFF**.) |
| Cannot dial out. | • Call Bar mode set.<br>• Particular dialled number is restricted.<br>• Key lock mode ON. | • Turn feature off. (Refer to **Call BAR ON/OFF**.)<br>• Remove number from call restricted list. (Refer to **Call Restriction**.)<br>• Turn key lock OFF. (Refer to **Key Lock**.) |
| Cordless handset will not ring. | • Ringer switched off. | • Set ringer to one of 6 volume levels. |
| Last number redial does not work. | • Number exceeded 24 digits. | • Redial manually. |
| No Caller ID number displayed. | • Service not supplied.<br>• Caller has withheld info. | • Caller ID service must be arranged with telephone company. |
| icon flashes. | • Battery low. | • Recharge batteries. |
| Cannot register cordless handset to base unit. | • Max. number of base units already registered to cordless handset.<br>• Max. number of cordless handsets already registered to base unit.<br>• Wrong PIN number entered (Default 0000).<br>• Electrical noise in local area. | • Delete unused base unit registrations from cordless handset.<br>• Delete unused cordless handset registrations from base unit.<br>• If PIN number is lost, contact the Panasonic Service Centre. (Refer to **PIN Code**.)<br>• Move base unit/cordless handset away from sources of electrical noise (e.g., TVs, radios, etc.). |
| The display is blank even if the unit is charged. | • Battery low. | • Recharge batteries more than about 15 minutes. |
| Date and time disappeared. | • Power failure on base unit. | • Set the date and time. |
| A beep sounds when or on the base unit is pressed. | • Another unit in use. | • Wait for the other user to complete the operation. |
| A beep sounds when entering caller list or base unit phonebook with cordless handset. | • Another unit in use. | • Wait for the other user to complete the operation. |

**Cross Reference:**

Power ON/OFF ()

Call BAR On/Off (Call Prohibition On/Off) ()

Call Restriction ()

Key Lock ()

PIN Code ()

**Note:**
***1, *2: It will take time for both Base Unit and Handset to be linked with.**

# 8. OPERATIONS

## 8.1. Power ON/OFF

**Power ON**

Press and hold **POWER**. ➧ When **POWER** is released, the display changes to the standby mode.

**Power OFF**

Press and hold **POWER**. ➧ The display goes blank.

## 8.2. Setting the Date and Time

After a mains power failure, the clock needs to be set. Ensure that the icon is not flashing. After the date and time are set, the base unit display also shows the date and time. This feature can be operated with the cordless handset only.

To exit the operation, press at any time.

1 Press **JOYSTICK** (or move).

2 Select "Setting Handset". ➧ OK

3 Select "Set Date/ Time". ➧ OK

4 Enter the date (see below).

5 Enter the time (see below).

6 Press **JOYSTICK**. OK

**Example**: To set 16 February, 2003, 7:15 pm.

| Date | | | Time | | |
|---|---|---|---|---|---|
| Day | Month | Year | Hour | Minute | 12/24 hour clock |
| 1 6 | 0 2 | 0 3 | 0 7 | 1 5 | 12/24 12/24 |

**To select 12/24 Hour Clock**

Press **RIGHT SOFT KEY** repeatedly. 12/24

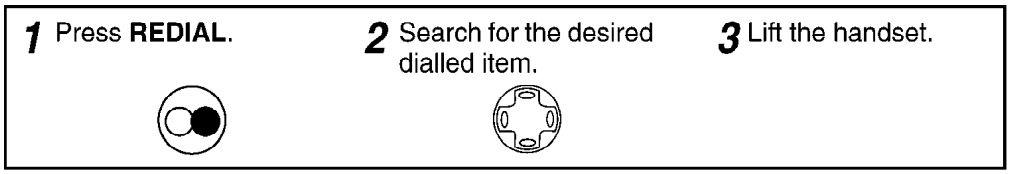
24 hour clock ➧ 12 hour clock (AM) ➧ 12 hour clock (PM)

## 8.3. Redialling

**The last 10 numbers dialled on the cordless handset and the base unit are automatically stored in each redial list separately.**

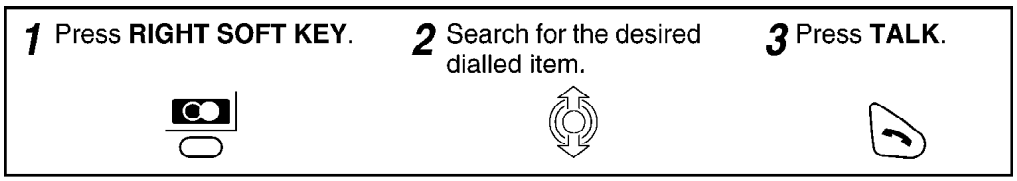
### 8.3.1. Dialling with the Redial List

#### 8.3.1.1. Base Unit




- If there are no items stored in the redial list when is pressed, the base unit display shows "Memory Empty".
- If you scroll to the end of the list when searching for an item, an end tone will sound.
- You can also press to make a call.

#### 8.3.1.2. Cordless Handset




- If there are no items stored in the redial list when is pressed, the handset display shows "Memory Empty".
- If you scroll to the end of the list when searching for an item, an end tone will sound.
- You can also press to make a call.

### 8.3.2. Dialling the Last Number Dialled

#### 8.3.2.1. Base Unit

**Auto Redial**

If you press then to redial a number and the number is engaged, the unit will automatically redial the number every 40 seconds, up to 12 times. When using Auto Redial, press after pressing if the mute has not been cancelled.

#### 8.3.2.2. Cordless Handset

**Auto Redial**

If you press then to redial a number and the dialled number is engaged, the unit will automatically redial the number every 40 seconds, up to 12 times. When using Auto Redial, press after pressing if the mute has not been cancelled.

## 8.4. Phonebook

**You can store up to 200 caller information in the handset phonebook and up to 20 caller information in the base unit phonebook. If you subscribed to Caller ID and you received a call**

**from the same phone number you stored with name in each phonebook, the display will show the caller's name.**
**When same phone number has been registered to the handset and the base unit phonebook with different names, each display will show each registered caller's name.**

**Private Category Feature**
**You can categorise caller information in the handset phonebook. There are 9 categories available. For example, category 1 can be used to save all friends numbers. For each category, you can rewrite the category names (max. 10 characters), you can select one of 3 Ringer LED colours and one of 15 ringer types. This feature is available only after subscribing to Caller ID Service. Please contact your telephone company for further information.**

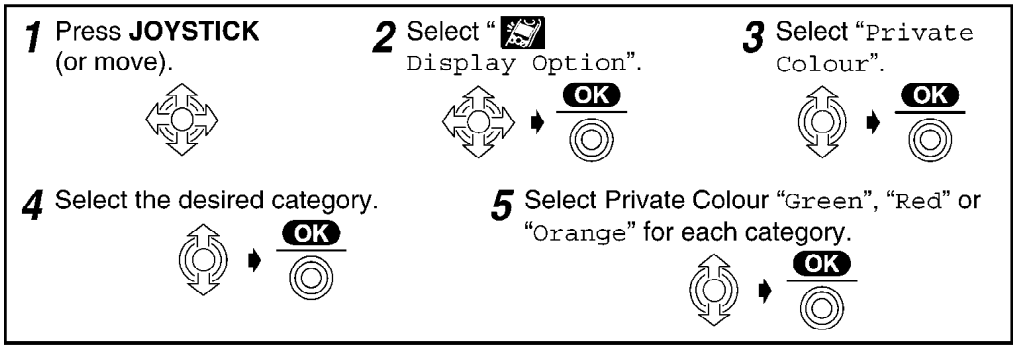
**Example**

| Private Category No. | Ringer LED Colour* | | | Private Ringer Type | Category Name |
|---|---|---|---|---|---|
| | Green | Orange | Red | | |
| 1 | | ✓ | | 3 | Friends |
| 3 | | | ✓ | 2 | Customers |

* The factory preset LED colour is green.
• The unit will indicate an incoming call using the factory preset LED colour (green) and the ringer pattern assigned to external calls momentarily until Caller ID information is received from the telephone company.

### Setting the Private Colour

To exit the operation, press at any time.




• The factory preset is "Green".
• When you select the private colour on step **5**, the Ringer LED will flash at the selected colour.

## 8.4.1. Storing Caller Information in the Phonebook

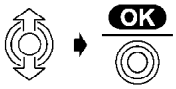
### 8.4.1.1. Base Unit Phonebook

This feature can be operated with the cordless handset only.
To exit the operation, press ⏻ at any time.

**1** Press **LEFT SOFT KEY**.

**2** Press **JOYSTICK**.

**3** Select "`Base Phonebook`".




**4** Enter Name.
(max. 16 characters:)

**5** Press **JOYSTICK**.

**6** Enter Phone Number.
(max. 24 digits)

**7** Press **JOYSTICK**.

**8** Select "`Save`", then "`Saved`" is displayed.

- If "`Memory Full`" is displayed when you select "`Base Phonebook`", the base unit phonebook is full. To store, delete other stored items in the base unit phonebook.
- To continue storing other caller information, repeat from step **4**.

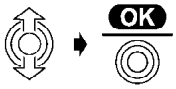
#### 8.4.1.2. Cordless Handset Phonebook

To exit the operation, press ⏻ at any time.

**1** Press **LEFT SOFT KEY**.

**2** Press **JOYSTICK**.

**3** Select "`H/set Phonebook`".



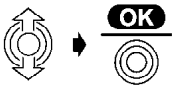

**4** Enter Name.
(max. 16 characters:)

**5** Press **JOYSTICK**.

**6** Enter Phone Number.
(max. 24 digits)

**7** Press **JOYSTICK**.

**8** Select the desired category or "`Off`".




**9** Select "`Save`", then "`Saved`" is displayed.

- If "`Memory Full`" is displayed when you select "`H/set Phonebook`", the handset phonebook is full. To store, delete other stored items in the handset phonebook.
- To continue storing other caller information, repeat from step **4**.

### 8.4.2. Entering Names/Characters

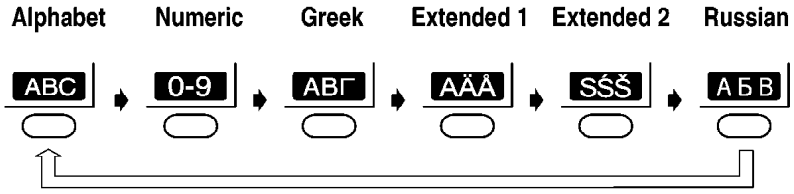
| Keys | Operations |
|---|---|
| | Move the **JOYSTICK** up, down, left or right to move the cursor (a flashing digit). |
| 0 to WXYZ 9 | Press to enter letters/numbers. (Items are added to the left of the cursor. If the cursor is at the beginning of a line, the item is added at the beginning.) |
| C | Press to delete characters. (Character on the cursor is deleted. To delete all characters, press and hold.) |
| A→a * | Press to change between upper and lower case. |
| 0 | Press to insert a blank space (except when in Numeric input mode). |
| 1 | Press to insert a symbol ( *, #, /, etc.) (except when in Numeric input mode). |

**Selecting the Input Mode**

You can select one of 6 input modes by pressing **RIGHT SOFT KEY** while entering a name. The function icon above the key displays the current input mode. The factory preset is "**Alphabet Mode**".

For the full character map, see **Phonebook Character Table**.

To switch the input mode while editing the name in the phonebook, press **RIGHT SOFT KEY.**




**Example (Alphabet Mode)**

Enter the name using the letters on the keypad. For example, to enter "Anne" in Alphabet Mode:

**Cross Reference:**

Phonebook Character Table ()

## 8.4.3. Phonebook Character Table

| Buttons | Alphabet (ABC) | Numeric (0–9) | Greek(ΑΒΓ) | Extended 1(AÄÅ) | Extended 2 (SŚŠ) | Russian (АБВ) |
|---|---|---|---|---|---|---|
| 1 | Space # & ' ( ) *, – . / 1 | 1 | Space # & ' ( ) *, – . / 1 | | | |
| 2 | A B C 2 | 2 | Α Β Γ 2 | A À Á Â Ã Ä Å Æ B C Ç 2 | A Á Ä Ą B C Ć Č 2 | А Б В Г 2 |
| | a b c 2 | | | a à á â ã ä å æ b c ç 2 | a á ä Ą b c Ć Č 2 | |
| 3 | D E F 3 | 3 | Δ Ε Ζ 3 | D E È É Ê Ë Ē F 3 | D Ď E É Ę Ě F 3 | Д Е Ж З 3 |
| | d e f 3 | | | d e è é ê ë ē f 3 | d ď e é Ę ě f 3 | |
| 4 | G H I 4 | 4 | Η Θ Ι 4 | G Ğ H I Ì Í Î Ï Ī Į Ĭ 4 | G H I Í 4 | И Й К Л 4 |
| | g h i 4 | | | g ğ h i ì í î ï ī ı ĭ 4 | g h i í 4 | |
| 5 | J K L 5 | 5 | Κ Λ Μ 5 | J K L 5 | J K L Ł Ĺ Ľ 5 | М Н О П 5 |
| | j k l 5 | | | j k l 5 | j k l Ł Ĺ Ľ 5 | |
| 6 | M N O 6 | 6 | Ν Ξ Ο 6 | M N Ñ O Ò Ó Ô Õ Ö ø 6 | M N Ń Ň O Ó Ö Ő 6 | Р С Т У 6 |
| | m n o 6 | | | m n ñ o ò ó ô õ ö ø 6 | m n Ń ň o ó ö ő 6 | |
| 7 | P Q R S 7 | 7 | Π Ρ Σ 7 | P Q R S Ş ß 7 | P Q R Ŕ Ř S Ś Š 7 | Ф Х Ц Ч 7 |
| | p q r s 7 | | | p q r s Ş ß 7 | p q r Ŕ ř s Ś Š 7 | |
| 8 | T U V 8 | 8 | Τ Υ Φ 8 | T U Ù Ú Û Ü Ũ V 8 | T Ť U Ú Ü Ű ů V 8 | Ш Щ Ъ Ы 8 |
| | t u v 8 | | | t u ù ú û ü ũ v 8 | t ť u ú ü ű ů v 8 | |
| 9 | W X Y Z 9 | 9 | Χ Ψ Ω Ϋ 9 | W Ŵ X Y ŷ Z 9 | W X Y ŷ Ý Z Ź Ž Ż 9 | Ь Э Ю Я 9 |
| | w x y z 9 | | | w Ŵ x y ŷ z 9 | w x y ŷ ý z Ź Ž Ż 9 | |
| 0 | Space 0 | 0 | Space 0 | | | |

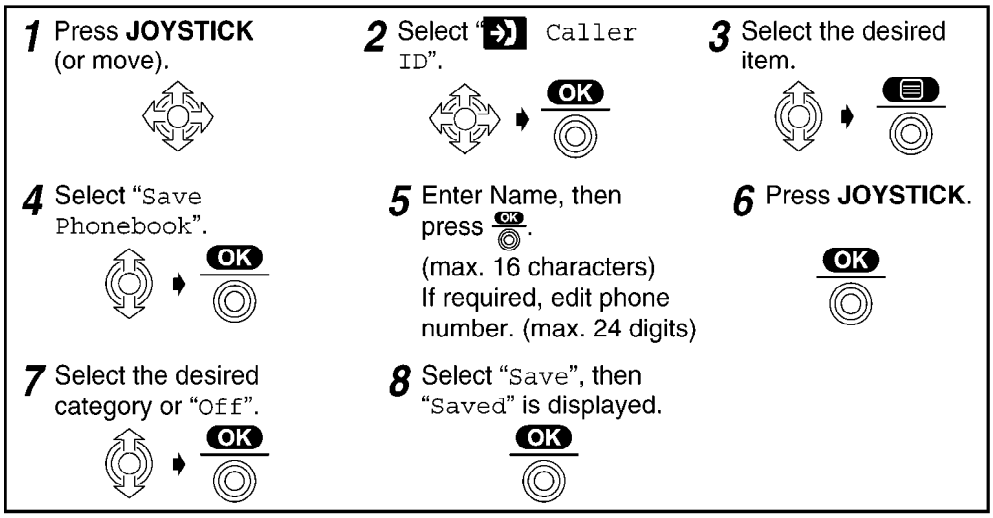
- The following small (or capital) letters of Greek, Russian (Cyrillic), Polish, Czech and Slovakian are not available. Then same letter as capital (or small) will be displayed. ą ć č ę ł l ľ ń Ø ŕ ş ś š ť Ù ŵ Y Ÿ Ż ż ž
- Press * to change letter size; Capital > Small, Small > Capital.

## 8.4.4. Storing the Number in the Handset Phonebook

### From the Caller ID List Menu

You can save the numbers from the Caller ID list into the handset phonebook, and you can edit (for calling) or delete item(s) in the Caller ID List.

To exit the operation, press at any time.

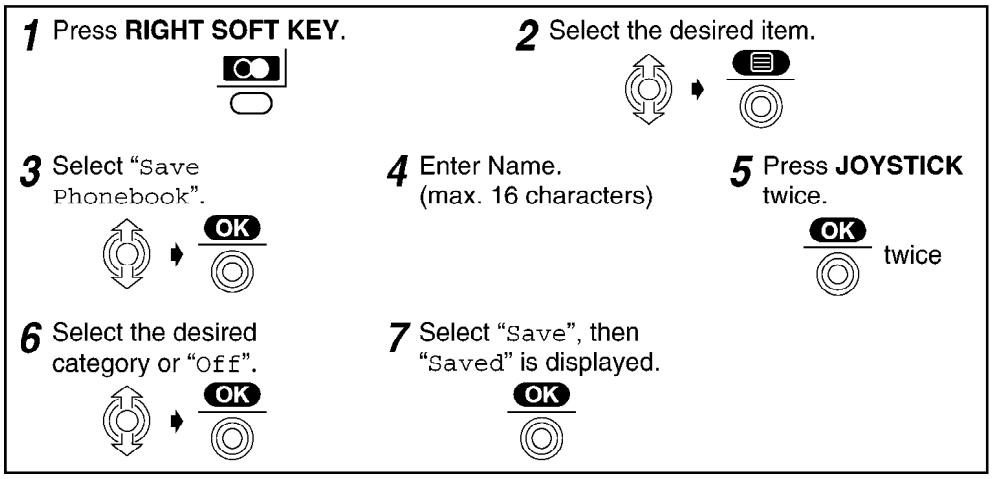



- If you scroll to the end of the list when searching for an item, an end tone will sound.
- If there are no items stored in the caller list when "Caller ID" is selected, the handset display shows "Memory Empty".

### From the Redial List Menu

You can save numbers from the redial list into the handset phonebook, and you can edit (for calling) or delete item(s) in the redial list.

To exit the operation, press at any time.




- If there are no items stored in the redial list when is pressed, the handset display shows "Memory Empty".

## 8.4.5. Hot Keys (: Speed Dial)

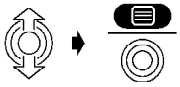
You can assign the dialling buttons 1 through 9 as hot keys. You can choose 9 phone numbers from the handset phonebook.

To exit the operation, press ⏻ at any time.

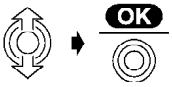
**Registering a Phone Number as a Hot Key**

**1** Press **LEFT SOFT KEY**.

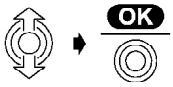
**2** Select the desired item.



**3** Select "Reg. to Hot Key".



**4** Select the desired dialling button number.



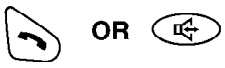
**5** Select "Save", then "Saved" is displayed.

- If there are no items stored in the handset phonebook when searching for the desired item, the handset display shows "Memory Empty".
- If an item is already assigned to a hot key, "✓" will be displayed on the left of the key number. If a hot key number with "✓" is selected, press OK to select "Overwrite".

**Dialling with a Hot Key**

**1** Press and hold the dialling button registered as a hot key until a phone number is displayed.

**2** Press **TALK** or **SPEAKERPHONE**.



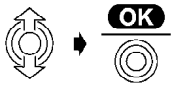
**Deleting the Hot Key Registration**

**1** Press and hold the dialling button registered as a hot key until a phone number is displayed.

**2** Press **JOYSTICK**.

**3** Select "Delete".

**4** Select "Yes", then "Deleted" is displayed.



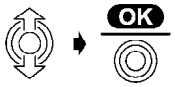
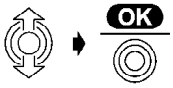
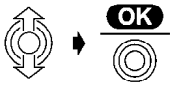
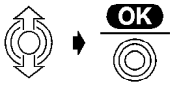
- Handset phonebook registration will not be erased when hot key registration is deleted.

## 8.4.6. Phonebook Copy

**You can copy handset phonebook information between cordless handsets registered to the same base unit. The handset phonebook copy must be performed while in intercom mode.**

**To exit the operation, press ⏻ at any time.**

**Example: Copying a Handset Phonebook Item to Another Handset Phonebook**

| | <Cordless Handset 1: Receiver> | <Cordless Handset 2: Sender> |
|---|---|---|
| | (During an intercom call) | |
| 1 | Press **JOYSTICK**. | |
| 2 | Select "Recv Phonebook". "Start Copying" is displayed.  | |
| 3 | | Press **JOYSTICK**. |
| 4 | | Select "Send Phonebook".  |
| 5 | | Select the desired item to copy.  |
| 6 | | Select "Copy One Item" then "Start Copying" is displayed.  |

**Example: Copying All Handset Phonebook Items to Another Handset Phonebook**

To exit the operation, press at any time.

| | <Cordless Handset 1: Receiver> | <Cordless Handset 2: Sender> |
|---|---|---|
| | | (During an intercom call) |
| 1 | Press **JOYSTICK**. | |
| 2 | Select "Recv Phonebook". "Start Copying" is displayed. | |
| 3 | | Press **JOYSTICK**. |
| 4 | | Select "Send Phonebook". |
| 5 | | Press **JOYSTICK**. |
| 6 | | Select "Copy All Items" then "Start Copying" is displayed. |

- When copying is completed, a beep sounds and "Copy Complete" is displayed. After a few seconds, the handset display will return to the intercom call. "Copy Incomplete" will be displayed on the sender handset if the receiver handset memory is full. If "Copy Failure" is displayed on the sender handset, the receiver did not prepare for copying.
- If you move the **JOYSTICK** up or down before pressing **JOYSTICK** on step **5**, all items will not be copied. The items, from the item indicated now to the last item, are copied.

### Example: Copying a Handset Phonebook Item to the Base Unit Phonebook

**1** Press **INTERCOM**.

**2** Press **JOYSTICK**.

**3** Select "Copy to Base".

**4** Select the desired item.

- If "Memory Full" is displayed when you select "Copy to Base", the base unit phonebook is full.
- Items in the handset phonebook can be copied one at a time.

## 8.5. Cordless Handset Registration to a Base Unit

The cordless handset supplied with the base unit is already registered. If an optional cordless handset is purchased, it must be registered as follows.

**Charge the optional cordless handset batteries for 7 hours before initial use.**

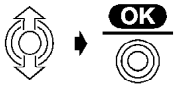
**Cordless handset registration must be completed within 1 minute after pressing . If over 1 minute, press then start over again.**

To exit the operation, press at any time.

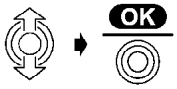
**1** Press **JOYSTICK** (or move).

**2** Select "Setting Handset".

**3** Select "Registration".

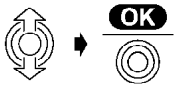



**4** Select "Register H/set".




**5** **Press and hold on the Base Unit (for about 3 seconds) until the tone sounds.**

**6** Select the desired base unit.




**7** Enter 4-digit Base Unit PIN.
(Factory Preset 0000)

**8** Press **JOYSTICK**.

When a cordless handset is registered successfully, a confirmation tone sounds and the "Y" icon is displayed.

- If you enter the incorrect Base Unit PIN, an error tone sounds. Repeat from step **1**.
- To register a cordless handset to more than one base unit, repeat from step **1** with the other base unit(s).
- The cordless handset main menu may change depending on the base unit that the cordless handset is registered to.

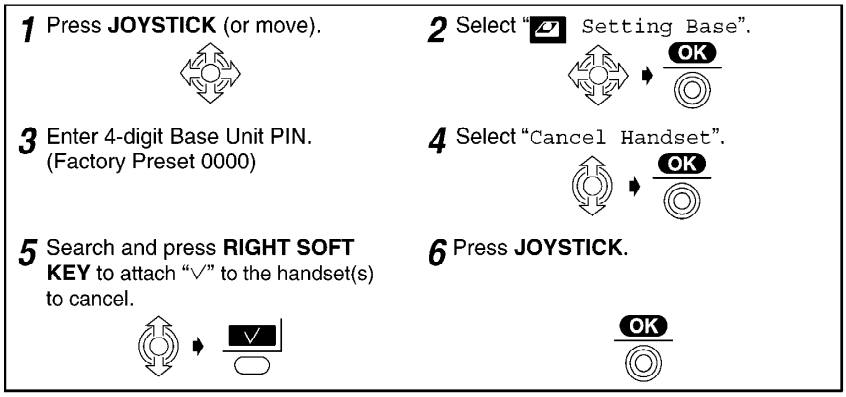
**Note for Service:**

**At step 7, enter * 7 0 0 0. Finally Handset will be linked to Base Unit.**

**Cancelling a Cordless Handset**

Each cordless handset can cancel itself or another cordless handset. This feature is usually used to cancel a link between Cordless Handset and Base Unit.

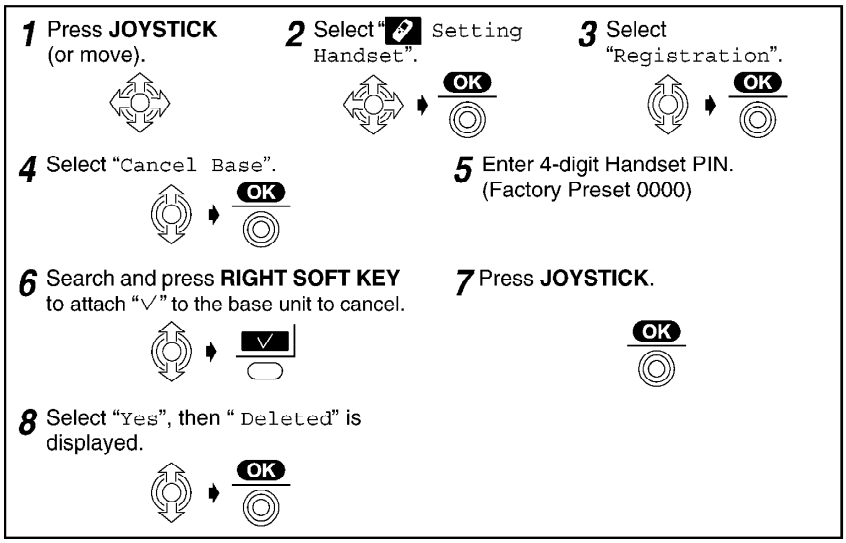
To exit the operation, press at any time.


1 Press JOYSTICK (or move).
2 Select "Setting Base".
OK
3 Enter 4-digit Base Unit PIN. (Factory Preset 0000)
4 Select "Cancel Handset".
OK
5 Search and press RIGHT SOFT KEY to attach "√" to the handset(s) to cancel.
√
6 Press JOYSTICK.
OK

**Cancelling a Base Unit**

If a cordless handset is out of range and/or power is OFF when **Cancelling a Cordless Handset**, the previous base unit number will still remain in the cancelled cordless handset. Therefore, you need to cancel the base unit registered in the cancelled cordless handset.

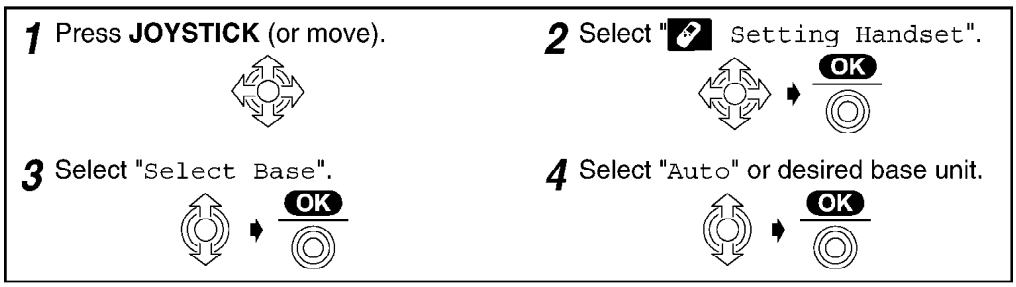
To exit the operation, press at any time.


1 Press JOYSTICK (or move).
2 Select "Setting Handset".
OK
3 Select "Registration".
OK
4 Select "Cancel Base".
OK
5 Enter 4-digit Handset PIN. (Factory Preset 0000)
6 Search and press RIGHT SOFT KEY to attach "√" to the base unit to cancel.
√
7 Press JOYSTICK.
OK
8 Select "Yes", then "Deleted" is displayed.
OK

## 8.6. Base Unit Selection

When "Auto" (Automatic Base Unit Selection) is selected, the cordless handset automatically searches for other registered base units if you move outside of the radio range of the current base unit.
When a specified base unit is selected, the cordless handset will access that base unit only. Calls (both incoming and outgoing) can be conducted only via the selected base unit, even if the radio cells overlap with neighbouring base units.

To exit the operation, press at any time.




- The factory preset is "Auto".

# 9. DISASSEMBLY INSTRUCTIONS

## 9.1. Base Unit

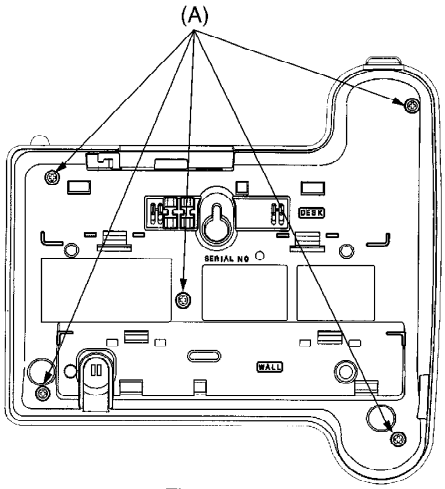



Fig. 1

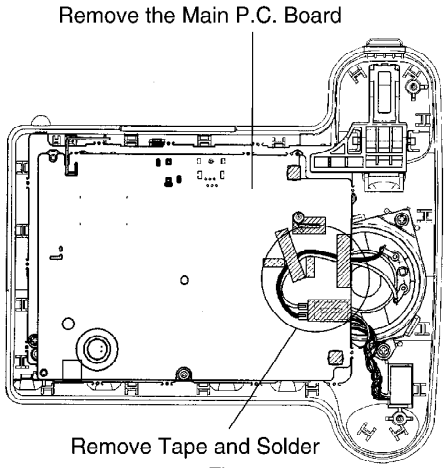



Fig. 2

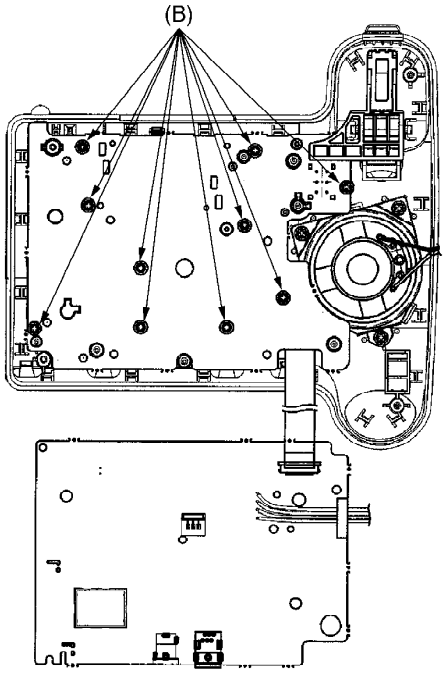



Fig. 3

| Shown in Fig.- | To Remove | Remove |
|---|---|---|
| 1 | Lower Cabinet | Screws (2.6 × 14).....(A) × 5 |
| 2 | Main P.C. Board | Tape and Solder |
| | | Main P.C. Board |
| 3 | Operational P.C. Board | Screws (2.6 × 8).....(B) × 10 |
| | | Operational P.C. Board |

## 9.2. Cordless Handset

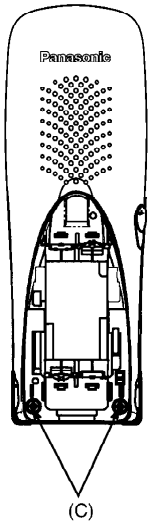



Fig.4

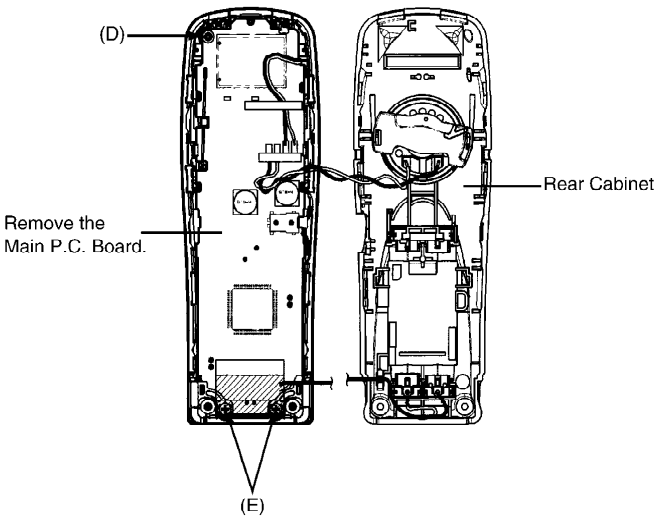
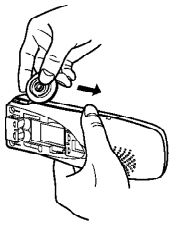
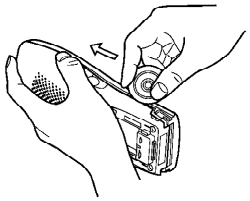


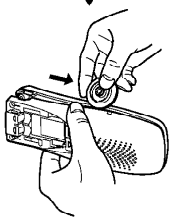

Fig.6

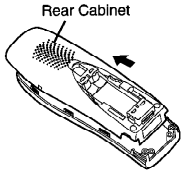


Insert a JIG (PQDJ10006Y) between the Front and the Rear Cabinet, then pull it along the gap to open the Cabinet.



Likewise, open the other side of the Cabinet.






Remove the Rear Cabinet by pushing it upward.

Fig.5

| Shown in Fig.- | To Remove | Remove |
|---|---|---|
| 4 | Rear Cabinet | Screws (2 × 10).....(C) × 2 |
| 5 | | Follow the procedure. |
| 6 | Main P.C. Board | Screw (2 × 8).....(D) × 1 |
| | | Screws (2 × 8).....(E) × 2 |
| | | Main P.C. Board |

## 9.3. Charger Unit

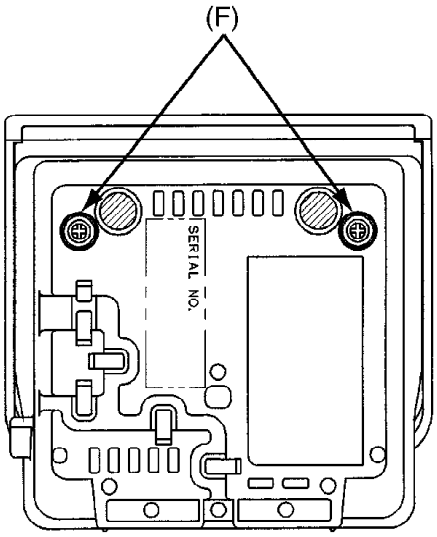



Fig. 7

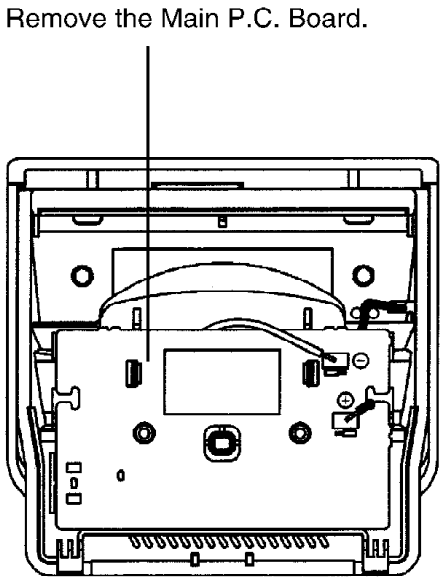
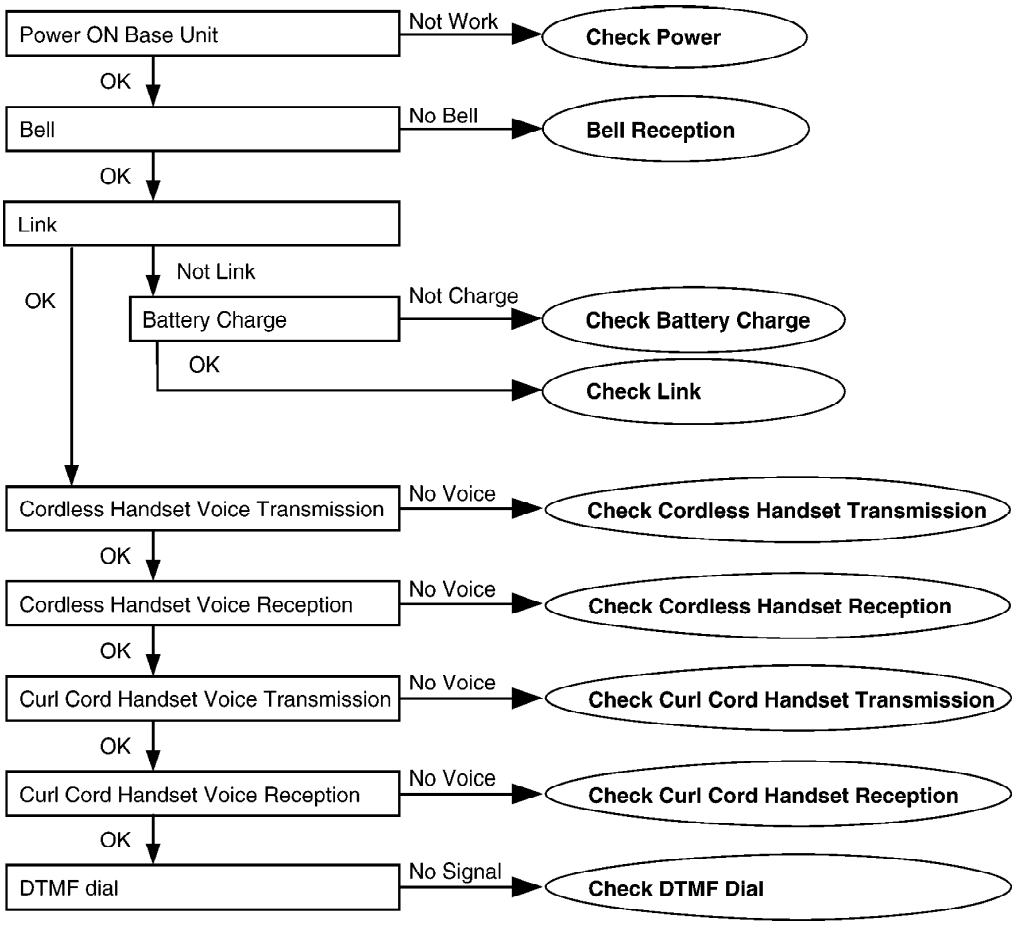



Fig. 8

| Shown in Fig.- | To Remove | Remove |
|---|---|---|
| 7 | Lower Cabinet | Screws (2.6 × 14).....(F) × 2 |
| 8 | Main P.C. Board | Main P.C. Board |

# 10. TROUBLESHOOTING GUIDE

**Flow Chart**

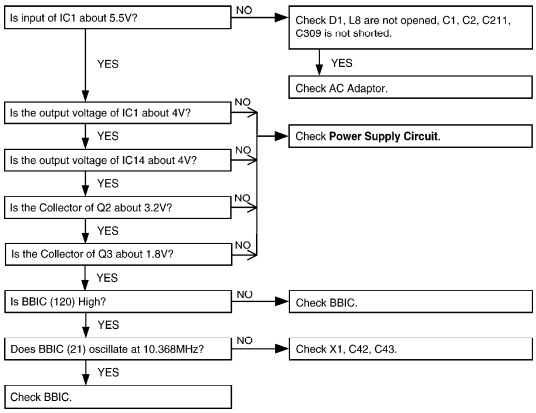



**Cross Reference:**
**Check Power ()**
**Bell Reception ()**
**Check Battery Charge ()**
**Check Link ()**
**Check Cordless Handset Transmission ()**
**Check Cordless Handset Reception ()**
**Check Curl Cord Handset Transmission ()**
**Check Curl Cord Handset Reception ()**
**Check DTMF Dial ()**

# 10.1. Check Power

## 10.1.1. Base Unit

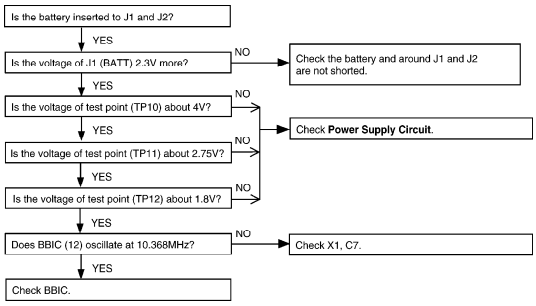
**Is the AC Adaptor inserted into AC outlet? (Check AC Adaptor's specification.)**




**Cross Reference**
**Power Supply Circuit ()**

**Note:**
**BBIC is IC2.**

### 10.1.2. Cordless Handset

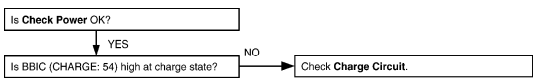



**Cross Reference**
**Power Supply Circuit/Reset Circuit ()**

**Note:**
**BBIC is IC1.**

## 10.2. Check Battery Charge

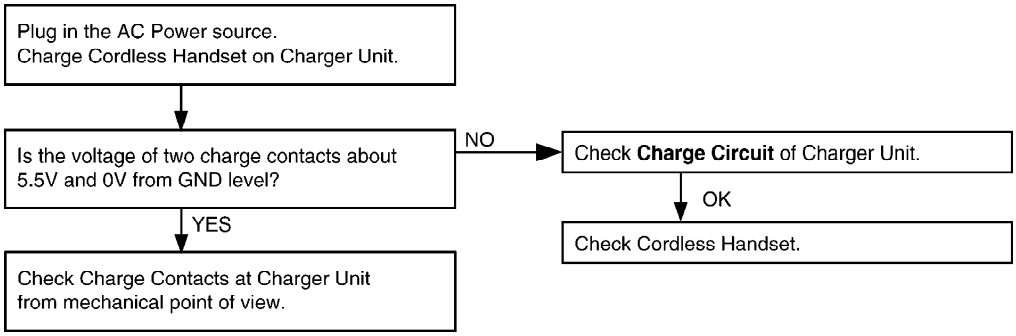
### 10.2.1. Cordless Handset



**Cross Reference:**
**Check Power ()**
**Charge Circuit ()**

**Note:**
**BBIC is IC1.**

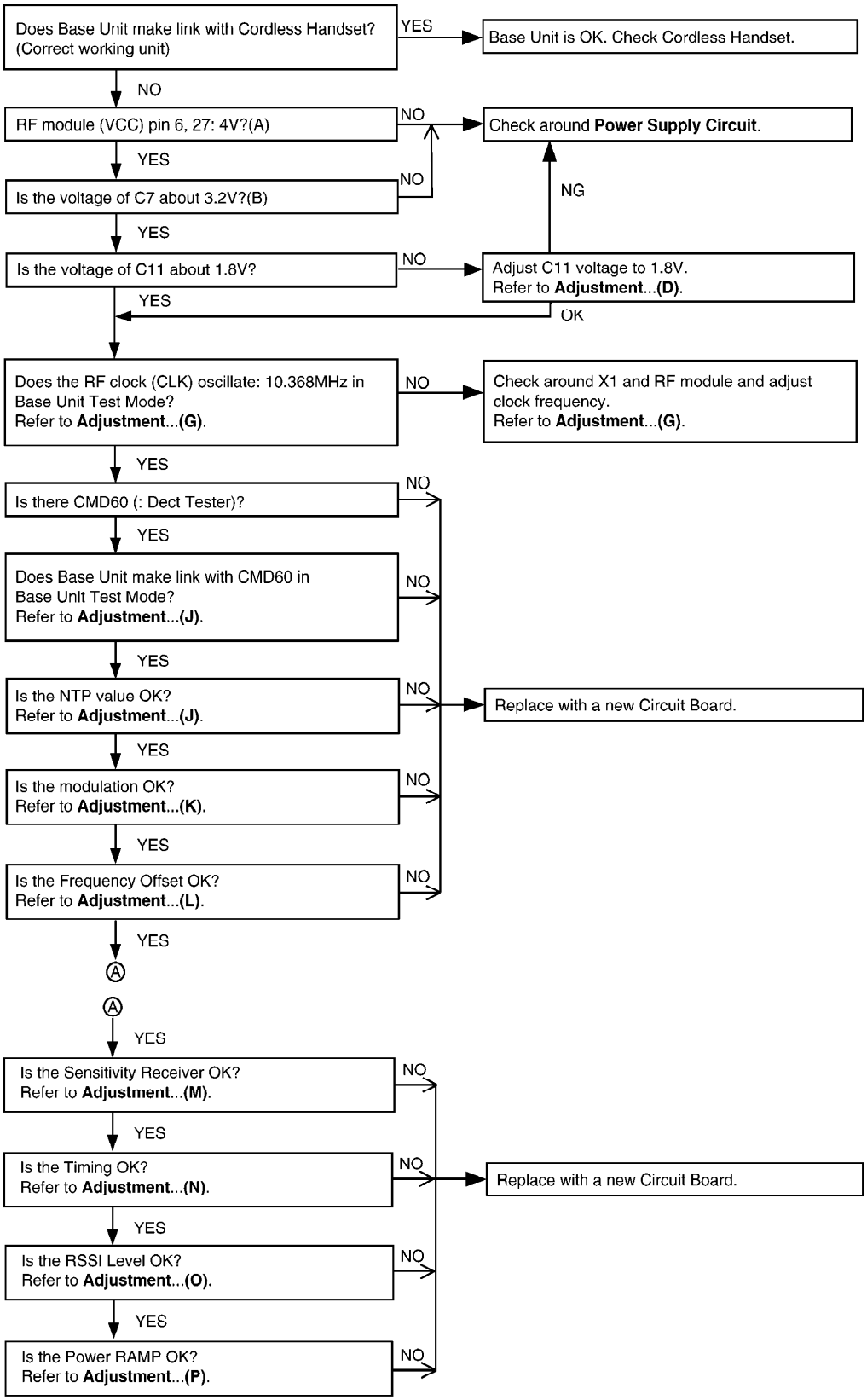
### 10.2.2. Charger Unit


Plug in the AC Power source.
Charge Cordless Handset on Charger Unit.
Is the voltage of two charge contacts about 5.5V and 0V from GND level?
NO
Check Charge Circuit of Charger Unit.
OK
Check Cordless Handset.
YES
Check Charge Contacts at Charger Unit from mechanical point of view.

**Cross Reference:**
**Charge Circuit ()**

## 10.3. Check Link

### 10.3.1. Base Unit

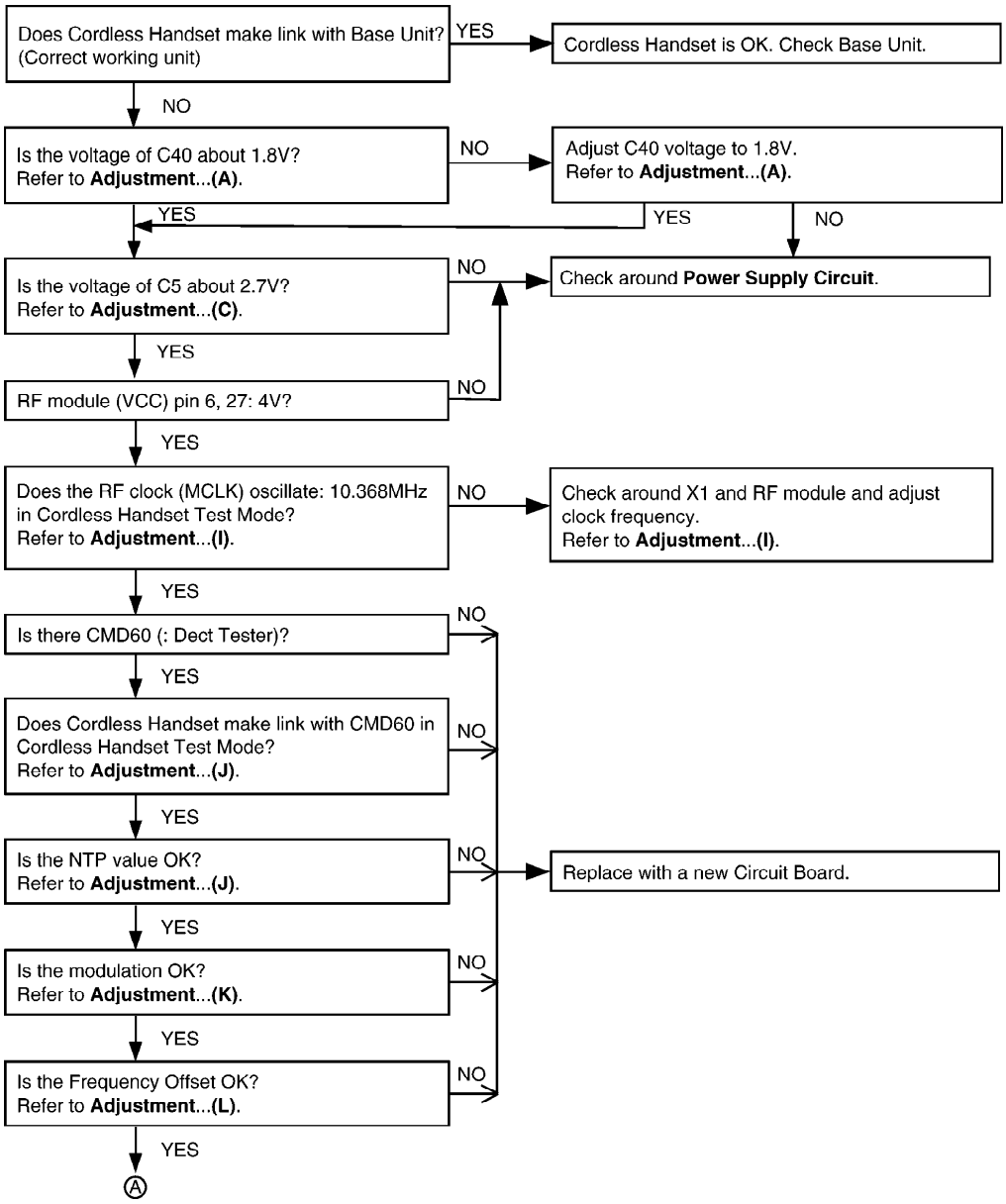


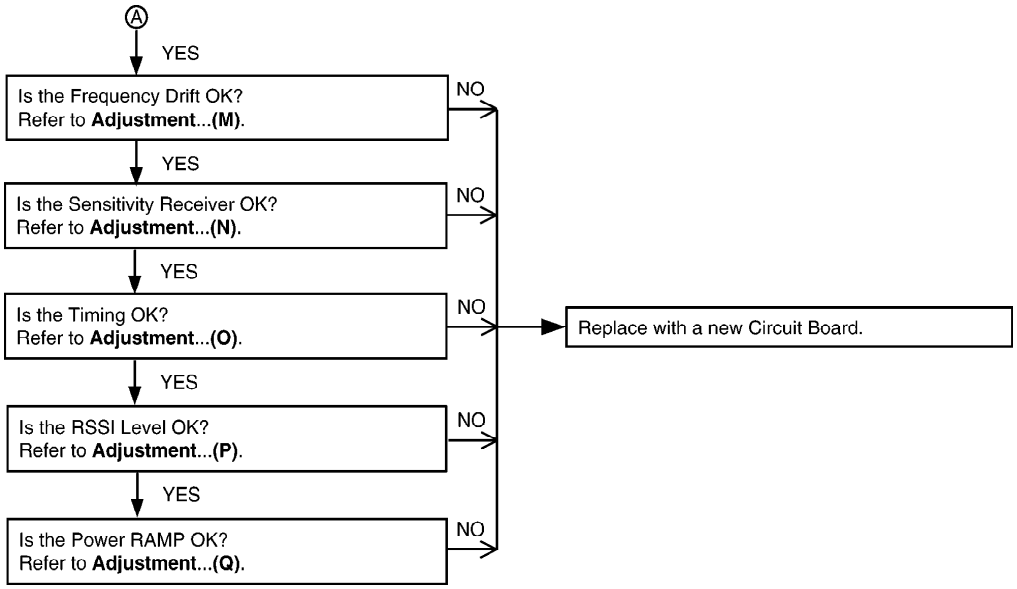

**Cross Reference:**

**Power Supply Circuit/Reset Circuit ()**

**Adjustment (Base Unit) ()**

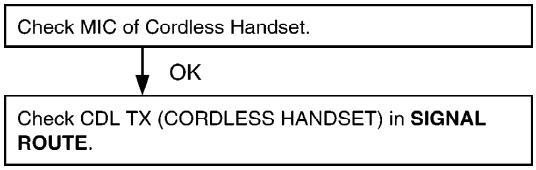
## 10.3.2. Cordless Handset


Does Cordless Handset make link with Base Unit? (Correct working unit)
YES
Cordless Handset is OK. Check Base Unit.
NO
Is the voltage of C40 about 1.8V? Refer to Adjustment...(A).
NO
Adjust C40 voltage to 1.8V. Refer to Adjustment...(A).
YES
YES
NO
Is the voltage of C5 about 2.7V? Refer to Adjustment...(C).
NO
Check around Power Supply Circuit.
YES
RF module (VCC) pin 6, 27: 4V?
NO
YES
Does the RF clock (MCLK) oscillate: 10.368MHz in Cordless Handset Test Mode? Refer to Adjustment...(I).
NO
Check around X1 and RF module and adjust clock frequency. Refer to Adjustment...(I).
YES
Is there CMD60 (: Dect Tester)?
NO
YES
Does Cordless Handset make link with CMD60 in Cordless Handset Test Mode? Refer to Adjustment...(J).
NO
YES
Is the NTP value OK? Refer to Adjustment...(J).
NO
Replace with a new Circuit Board.
YES
Is the modulation OK? Refer to Adjustment...(K).
NO
YES
Is the Frequency Offset OK? Refer to Adjustment...(L).
NO
YES
Ⓐ



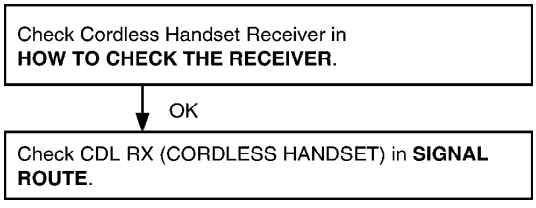

**Cross Reference**
**Power Supply Circuit/Reset Circuit ()**
**Adjustment (Cordless Handset) ()**

## 10.4. Check Cordless Handset Transmission



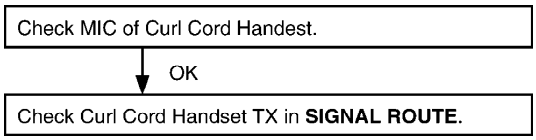

**Cross Reference:**
**SIGNAL ROUTE ()**

## 10.5. Check Cordless Handset Reception



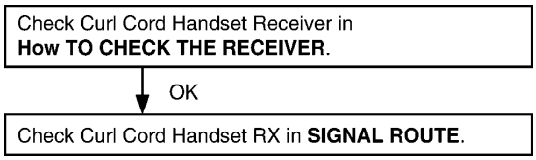

**Cross Reference:**
**HOW TO CHECK THE CORDLESS HANDSET RECEIVER ().**
**SIGNAL ROUTE ()**

## 10.6. Check Curl Cord Handset Transmission




**Cross Reference:**
**SIGNAL ROUTE ()**

## 10.7. Check Curl Cord Handset Reception



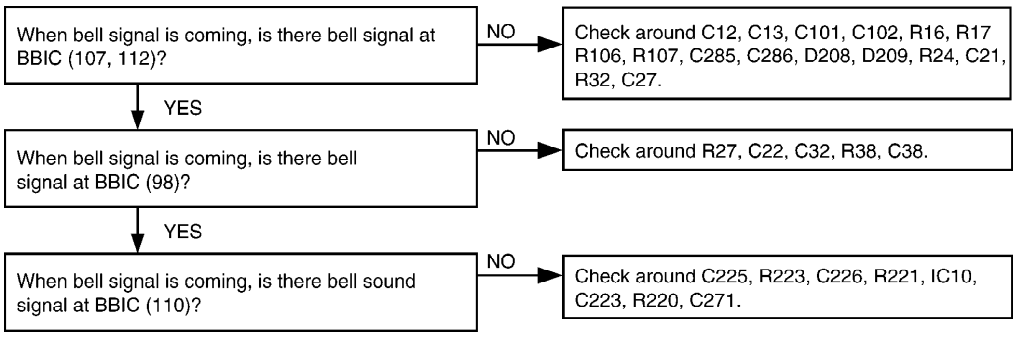

**Cross Reference:**
**HOW TO CHECK THE CORDLESS HANDSET RECEIVER ()**
**SIGNAL ROUTE ()**

## 10.8. Check Caller ID

**Cross Reference:**
**SIGNAL ROUTE ()**

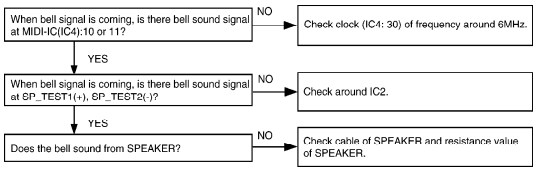
## 10.9. Bell Reception

### 10.9.1. Base Unit


When bell signal is coming, is there bell signal at BBIC (107, 112)?
NO
Check around C12, C13, C101, C102, R16, R17 R106, R107, C285, C286, D208, D209, R24, C21, R32, C27.
YES
When bell signal is coming, is there bell signal at BBIC (98)?
NO
Check around R27, C22, C32, R38, C38.
YES
When bell signal is coming, is there bell sound signal at BBIC (110)?
NO
Check around C225, R223, C226, R221, IC10, C223, R220, C271.

**Note:**
**BBIC is IC2.**

### 10.9.2. Cordless Handset


When bell signal is coming, is there bell sound signal at MIDI-IC(IC4):10 or 11?
NO
Check clock (IC4: 30) of frequency around 6MHz.
YES
When bell signal is coming, is there bell sound signal at SP_TEST1(+), SP_TEST2(-)?
NO
Check around IC2.
YES
Does the bell sound from SPEAKER?
NO
Check cable of SPEAKER and resistance value of SPEAKER.

**Cross Reference:**
**Telephone Line Interface ()**
**Check Link ()**
**HOW TO CHECK THE CORDLESS HANDSET AND BASE UNIT SPEAKER ()**

**Note:**
**BBIC is IC1.**

## 10.10. Check DTMF Dial

Check DTMF TONE TEL OUT in **SIGNAL ROUTE**.

**Cross Reference:**
**SIGNAL ROUTE ()**

# 11. CHECK PROCEDURE (BASE UNIT)

## 11.1. Preparation

### 11.1.1. Equipment Required

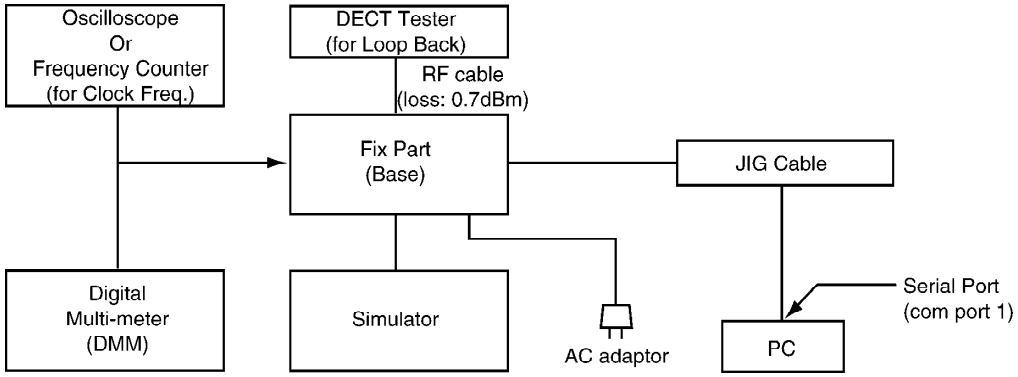
**- DECT tester: Rohde & Schwarz, CMD 60 is recommended.**
**- Frequency counter: it must be precise to be able to measure 1Hz (precision; ± 4ppm).**
**Hewlett Packard, 53131A is recommended.**
**- DC power: it must be able to output at least 1A current under 9V.**
**- Digital multi-meter (DMM): it must be able to measure voltage and current.**
**- Oscilloscope**

### 11.1.2. JIG and PC

**- EEPROM serial JIG**
**JIG Cable: PQZZ1CD505E**
**- PC which runs in DOS mode**
**- Batch file for setting: PQZZTCD530SL**

## 11.2. PC Setting

### 11.2.1. Connections




### 11.2.2. PC Setting

**1. Open a window of MS-DOS mode from the start-up menu.**

**2. Change a directory.**

**3. Type “SET_COM 1” from the keyboard (when COM port 1 is used for the connection).**

**4. Type “doskey”.**

**Note:**
**See the table below for frequently used commands.**

| Command name | Function | Example |
|---|---|---|
| rdeeprom | Read the data of EEPROM | Type “rdeeprom 00 00 FF”, and the data from address “00 00” to “FF” is read out. |
| readid | Read ID (RFPI) | Type “readid”, and the registered ID is read out. |
| writeid | Write ID (RFPI) | Type “writeid 00 18 E0 0E 98”, and the ID “0018 E0 0E 98” is written. |
| setfreq | adjust Frequency of RFIC | Type “setfreq nn”. |
| hookoff | off-hook mode on Base | Type “sethooksw 01”. |
| hookon | on-hook mode on Base | Type “sethooksw 00”. |
| Getchk | Read checksum | Type “getchk”. |
| Wreeprom | write eeprom | Type "wreeprom 01 23 45". "01 23" is address and "45" is data to be written. |

**For Service Hint:**
**Please make sure the speed of comport is “9600bps“ or less.**

# 12. CHECK PROCEDURE (CORDLESS HANDSET)

## 12.1. Preparation

### 12.1.1. Equipment Required

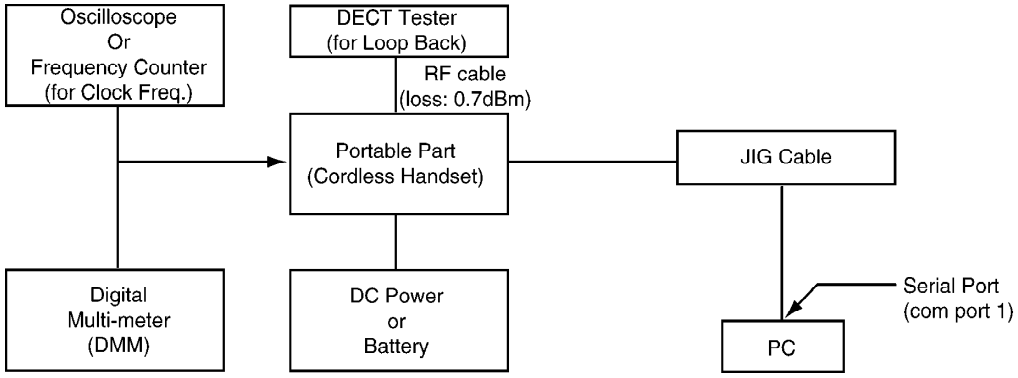
- DECT tester: Rohde & Schwarz, CMD 60 is recommended.
- Frequency counter: it must be precise to be able to measure 1Hz (precision; ± 4ppm).
  Hewlett Packard, 53131A is recommended.
- DC power: it must be able to output at least 1A current under 2.4V for Cordless Handset, 9V for JIG.
- Digital multi-meter (DMM): it must be able to measure voltage and current.
- Oscilloscope

### 12.1.2. JIG and PC

- EEPROM serial JIG
  JIG Cable: PQZZ1CD505E
- PC which runs in DOS mode.
- Batch file for PC setting: PQZZTCD530SL

## 12.2. PC Setting

### 12.2.1. Connections




### 12.2.2. PC Setting

1. Open a window of MS-DOS mode from the start-up menu.
2. Change a directory.
3. Type “SET_COM 1” from the keyboard (when COM port 1 is used for the connection).
4. Type “doskey”.

**Note:**
**See the table below for frequently used commands.**

| Command name | Function | Example |
|---|---|---|
| rdeeprom | Read the data of EEPROM | Type “rdeeprom 00 00 FF”, and the data from address “00 00” to “FF” is read out. |
| readid | Read ID (RFPI) | Type “readid”, and the registered ID is read out. |
| writeid | Write ID (RFPI) | Type “writeid 00 18 E0 0E 98”, and the ID “0018 E0 0E 98” is written. |
| setfreq | adjust Frequency of RFIC | Type “setfreq nn”. |
| Getchk | Read checksum | Type “getchk”. |
| Wreeprom | write eeprom | Type "wreeprom 01 23 45". "01 23" is address and "45" is data to be written. |

**For Service Hint:**
**Please make sure the speed of comport is “9600bps“ or less.**

# 13. ADJUSTMENTS (BASE UNIT AND CHARGER UNIT)

**If your unit have below symptoms, adjust or confirm each item using remedy column from the table.**

| Symptom | Remedy* |
|---|---|
| The base unit does not respond to a call from cordless handset. | Make adjustments in item (J)~(P). |
| The base unit does not transmit or the transmit frequency is off. | Make adjustments in item (J)~(P). |
| The transmit frequency is off. | Make adjustments in item (J)~(P). |
| The transmit power output is low, and the operating distance between base unit and cordless handset is less than normal. | Make confirmation in item |
| The reception sensitivity of base unit is low with noise. | Make confirmation in item |
| The transmit level is high or low. | Make confirmation in item |
| The reception level is high or low. | Make confirmation in item |
| The unit does not link. | Make adjustments in item |

*** : Refer to Adjustment (Base Unit) ()**

## 13.1. Adjustment (Base Unit)

**Please follow the items below when BBIC or EEPROM or FLASH ROM are replaced.**

<table>
<tr><th></th><th>Items</th><th>Adjustment Point</th><th>Procedure</th></tr>
<tr><td>(A)</td><td>4.0V Supply Confirmation</td><td>TP14</td><td>1. Confirm that the voltage between TP14 and GND is 4.0V ± 0.2V.</td></tr>
<tr><td>(B)</td><td>4.0V Supply Confirmation</td><td>TP3</td><td>1. Confirm that the voltage between TP3 and GND is 4.0V ± 0.2V.</td></tr>
<tr><td>(C)</td><td>3.2V Supply Confirmation</td><td>TP22</td><td>1. Confirm that the voltage between TP22 and GND is 3.15V ± 0.2V.</td></tr>
<tr><td>(D) *</td><td>1.8V Supply Confirmation</td><td>TP15</td><td>1. Confirm that the voltage between TP15 and GND is 1.8V ± 0.02V.<br>2. Adjust the 1.8V voltage of TP15 executing the command “bandgap XX“ (XX is the value).</td></tr>
<tr><td>(E) *</td><td>BBIC Confirmation</td><td>-</td><td>1. BBIC Confirmation (Execute the command "getchk").<br>2. Confirm the returned checksum value.<br><br>Connection of checksum value and program number is shown below.<br>ex.)<table><tr><th>checksum value</th><th>program number</th></tr><tr><td>9ACF</td><td>D34DZC</td></tr><tr><td>8904</td><td>D34DZD</td></tr></table></td></tr>
<tr><td>(F) *</td><td>EEP-ROM Confirmation</td><td>-</td><td>1. EEP-ROM Confirmation.<br>2. Confirm the returned checksum value.<br><br>ex.)<table><tr><th>program number</th><th>command</th><th>checksum value</th></tr><tr><td>D34DZC</td><td>Chk530SLHv09.bat</td><td>1B95B</td></tr><tr><td>D34DZD</td><td>Chk530SLHv09.bat</td><td>1B95B</td></tr></table></td></tr>
</table>

| | Items | Adjustment Point | Procedure | C |
|---|---|---|---|---|
| (G)* | BBIC Clock Adjustment | TP49 | 1. Execute the command ”Conttx”.<br>2. Input command ”rdeeprom 02 86 01”, then you can confirm the current value.<br>3. Adjust the frequency of TP49 executing the command "setfreq xx (where xx is the value)" so that the reading of the frequency counter is 10.368000MHz ± 10Hz. | IC |
| (H)* | Hookswitch Check with DC Characteristics | - | 1. Connect CN1 (Telephone Socket) to Tel-simulator which is connected with 600 Ω.<br>2. Set line voltage to 48V at on-hook condition and line current to 40mA at off-hook condition of nomal telephone.<br>3. Execute the command "sethooksw 01".<br>4. Confirm that the line current is 40mA ± 5mA.<br>5. Execute the command "sethooksw 00".<br>6. Confirm that the line current is 0mA + 0.2mA. | |
| (I)* | DTMF Generator Confirmation | - | 1. Connect CN1 (Telephone Socket) to DTMF tester.<br>2. Execute the command "sethooksw 01" and "dtmf_Hi".<br>3. Confirm that the high frequency (1477.06Hz) group is -6.5dBm ~ -9.5dBm.<br>4. Execute the command "dtmf_lo".<br>5. Confirm that the low frequency (852.05Hz) group is -9.0dBm ~ -12.0dBm.<br>6. Execute the command "dialtone 0". | I<br>F<br>F<br>F<br>C<br>C<br>I |

| | Items | Adjustment Point | Procedure | C |
|---|---|---|---|---|
| (J)* | Transmitted Power Confirmation | - | **Remove the Antenna before starting step from 1 to 7.**<br>1. Configure the DECT tester (CMD60) as follows;<br><Setting><br><br>-Test mode: FP<br>-Traffic Carrier: 5<br>-Traffic Slot: 4<br>-Mode: Loopback<br>-PMID: 0000<br>-RF LEVEL = -70dBm.<br>2. Execute the command "testmode".<br>3. Execute the command “sendchar dmv 2 2“.<br>4. Check that “Signalling Status” has been set to “Locked“, then press “ACCEPT RFPI“.<br>5. Initiate connection from Dect tester (“set up connect“)<br>6. Execute the command “ant0“.<br>7. Confirm that the NTP value at ANT is 20dBm ~ 25dBm. | C<br>C<br>C<br>C<br>C<br>F<br>R<br>F<br>C<br>C |
| (K) | Modulatoin Check and Adjustment | ANT | **Follow steps 1 to 6 of (J) above.**<br><br>**7.Confirm that the B-Field Modulation is 360kHz/div ~ 380kHz /div using data type Fig31.**<br>**8.Adjust the B-Field Modulation if required. (Execute the command "readmod" and "wrtmod xx", where xx is the value.)** | C<br>C<br>C<br>C<br>C<br>F<br>R<br>F<br>C<br>C |

| | Items | Adjustment Point | Procedure | C |
|---|---|---|---|---|
| (L) | Frequency Offset Confirmation | - | Follow steps 1 to 6 of (J) above.<br><br>7.Confirm that the frequency offset is -50kHz ~ +50kHz. | C<br>C<br>C<br>C<br>C<br>F<br>R<br>F<br>C<br>C |
| (M) | Sensitivity Receiver Confirmation | - | Follow steps 1 to 6 of (J) above.<br><br>7.Set DECT tester power to -88dBm.<br>8.Confirm that the BER is < 1000ppm. | C<br>C<br>C<br>C<br>C<br>F<br>R<br>F<br>C<br>C |

| | Items | Adjustment Point | Procedure | C |
|---|---|---|---|---|
| (N) | Timing Confirmation | - | Follow steps 1 to 6 of (J) above.<br><br>7.Confirm that the Timing accuracy is -2.0ppm ~ +2.0ppm. | C<br>C<br>C<br>C<br>C<br>F<br>R<br>F<br>C<br>C |
| (O) * | RSSI Level Confirmation | - | Follow steps 1 to 6 of (J) above.<br><br>7.Execute the command "readrssi".<br>8. Confirm that the returned value is 11(hex) ~ 25(hex). | C<br>C<br>C<br>C<br>C<br>F<br>R<br>F<br>C<br>C |

| | Items | Adjustment Point | Procedure | C |
|---|---|---|---|---|
| (P) | Power RAMP Confirmation | - | Follow steps 1 to 6 of (J) above.<br><br>7.Confirm that “Power RAMP is Matching“. | |
| (Q) * | Audio Check (Cordless Handset) | - | 1. Link with Cordless Handset.<br>2. Input -45dBm/1kHz to Headset MIC of Cordless Handset.<br>Measure the Level at Line I/F and distortion level.<br>3. Confirm that the level is -10dBm ± 5dB and confirm that the distortion level is < 5% at TEL Line (600 Ω Road).<br>4. Input -20dBm/1kHz to Line I/F.<br>Measure the level at Headset Receiver of Cordless Handset and distortion level (*Receive volume set to middle).<br>5. Confirm that the level is -23dBm ± 5dB and confirm that the distortion level is < 5% at Receiver (Volume Middle, 150 Ω Road). | |

| | Items | Adjustment Point | Procedure | C |
|---|---|---|---|---|
| (R) | Audio Check (Curl Cord Handset) | - | 1. Input -45dBm/1kHz to MIC of Curl Cord Handset.<br>Measure the Level at Line I/F and distortion level.<br>2. Confirm that the level is -15dBm ± 5dB and confirm that the distortion level is < 5% at TEL Line (600 Ω Road).<br>3. Input -20dBm/1kHz to Line I/F.<br>Measure the level at Receiver of Carl Cord Handset and distortion level<br>(*Receive volume set to middle).<br>4. Confirm that the level is -24dBm ± 5dB and confirm that the distortion level is < 5% at Receiver (Volume Middle, 150 Ω Road). | I<br>L<br>F<br>C<br>C<br>IC<br>R<br>R<br>R<br>R<br>R<br>R<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C |

| | Items | Adjustment Point | Procedure | C |
|---|---|---|---|---|
| (S) | SP Phone Audio Check | - | 1. Press SP-Phone button.<br>2. Press MUTE button.<br>3. Input -20dBm/1kHz/600 Ω to Line I/F. (SP-Phone volume Maximum)<br>4. Measure the output level at Speaker (between TP108 and TP109).<br>5. Confirm that the level is -3 ± 5dBm.<br>6. Press MUTE button.<br>7. Input -45dBm/1kHz/600 Ω to SP-Phone Mic. (TP60-TP61)<br>8. Measure the output level at Line I/F.<br>9. Confirm that the level is 0 ± 5dBm. | I(<br>R<br><br>C<br><br><br><br>R<br><br>R<br>C<br><br>R<br><br>C<br><br>C<br><br>R<br><br>C<br><br>C<br><br>D<br>C<br><br>C<br>S<br><br>D<br>F |

**Note:**
**After the measuring, sock up the solder of TP.**
*** : PC Setting () is required beforehand.**
**The connection of adjustment equipment are as shown in Adjustment Standard (Base Unit) ().**

## 13.2. Adjustment Standard (Base Unit)

**When connecting the Simulator Equipments for checking, please refer to below.**

### 13.2.1. Component View

**Note:**
**(J) - (P) is refered to ADJUSTMENTS (BASE UNIT AND CHARGER UNIT) ()**

### 13.2.2. Flow Solder Side View

**Note:**
**(A) - (S) is refered to ADJUSTMENTS (BASE UNIT AND CHARGER UNIT) ()**

## 13.3. Adjustment (Charger Unit)

| | Items | Adjustment Point | Procedure | |
|---|---|---|---|---|
| (A) | Charging Check | - | 1. Connect Charge Contact 12 Ω /2W register between charge+ and charge-.<br>2. Measure and confirm voltage across the regigster is 2.7V ± 0.2V. | |

**Note:**
**After the measuring, sock up the solder of TP.**
**The connection of adjustment equipment are as shown in Adjustment Standard (Charger Unit) ().**

## 13.4. Adjustment Standard (Charger Unit)

**When connecting the Simulator Equipments for checking, please refer to below.**

### 13.4.1. Flow Solder Side View

**Note:**
**(A) is refered to ADJUSTMENTS (BASE UNIT AND CHARGER UNIT) ()**

# 14. ADJUSTMENTS (CORDLESS HANDSET)

**If your unit have below symptoms, adjust or confirm each item using remedy column from the table.**

| Symptom | Remedy* |
|---|---|
| The movement of Battery Low indicator is wrong. | Make adjustments in item (A)~ ). |
| The cordless handset does not respond to a call from base unit. | Make adjustments in item (A)~ |
| The cordless handset does not transmit or the transmit frequency is off. | Make adjustments in item (A)~ (M), (O). |
| The transmit frequency is off. | Make adjustments in item (A)~ (M), (O). |
| The transmit power output is low, and the operating distance between base unit and cordless handset is less than normal. | Make confirmation in item (J), |
| The reception sensitivity of base unit is low with noise. | Make confirmation in item (N). |
| Does not link between base unit and cordless handset. | Make adjustments in item (A)~ |
| The Audio level is high or low. | Make confirmation in item (R). |
| The SP-Phone level is high or low. | Make confirmation in item (S). |
| The cordless Headset level is high or low. | Make confirmation in item (T). |

*** : Refer to Adjustment (Cordless Handset) ()**

## 14.1. Adjustment (Cordless Handset)

**Please follow the items below when BBIC or EEPROM is replaced.**

| | Items | Adjustment Point | Procedure |
|---|---|---|---|
| (A) * | 1.8V Supply Confirmation | TP12 | 1. Confirm that the voltage between test point “TP12” and GND is 1.8V ± 0.02V.<br>2. Adjust the 1.8V voltage of TP12 executing command “bandgap XX“ (XX is the value). |
| (B) | 4.0V Supply Confirmation | TP10 | 1. Confirm that the voltage between “TP10” and GND is 3.85V ± 0.2V. |
| (C) | 2.7V Supply Confirmation | TP11 | 1. Confirm that the voltage between “TP11” and GND is 2.7V ± 0.1V. |

| | Items | Adjustment Point | Procedure |
|---|---|---|---|
| (D) * | BBIC Confirmation | - | 1. BBIC Confirmation (Execute the command "getchk").<br>2. Confirm the returned checksum value.<br><br>**Connection of checksum value and program number is shown below.**<br>ex.) checksum value: 6458 / program number: D312ZE ← KX-TCA151EX only<br>5DC4 / D312ZH |
| (E) | Charge Control Check & Charge Current Monitor Confirmation | - | 1. Apply 6V between J3(+) and J4(-) with current limit of PSU to 200mA.<br>2. Confirm that the charge current is ON/OFF.<br>3. SW to decrease current limit of PSU to 100mA.<br>4. Confirm that the charge current is stable. |
| (F) * | Charge Detection (OFF) Confirmation | - | 1. Stop supplying 6V to J3(+) and J4(-).<br>2. Execute the command "charge".<br>3. Confirm that the returned value is 0x01 (hex). |
| (G) * | Battery Monitor Confirmation & Adjustment | - | 1. Apply 2.3V ± 0.005V between BATT(+) and BATT(-).<br>2. Execute the command "Backloff", then "readbatt".<br>3. Confirm: 29 ≦ returned value ≦ 36 (Hex)<br>(If the returned value is within the range, no need to do step 4.)<br>4. If the reading is out of range in step 3 above, adjust the battery monitor excuting command "wreeprom 00 01 01 XX". (XX is the reading at step 3.)<br>Then excute command "wreeprom 00 36 01 YY". (YY can be confirmed by the following calculation; YY= XX - 0E) |
| (H) | Battery low Confirmation | - | 1. Apply 2.40V between BATT(+) and BATT(-).<br>2. Confirm that there is no flashing of Battery Icon.<br>3. Apply 2.20V between BATT(+) and BATT(-).<br>4. Confirm that there is flashing of Battery Icon. |
| (I)* | BBIC Clock Adjusment | | 1. Execute the command "conttx".<br>2. Input Command "rdeeprom 00 57 01", then you can confirm the current value.<br>3. Adjust the frequency of CLK executing the command "setfreq xx (where xx is the value)" so that the reading of the frequency counter is 10.368000MHz ± 10Hz.<br><br>**Note:**<br>**CLK is displayed only for a few seconds when excuting command "conttx" after the battery is inserted.** |

| | Items | Adjustment Point | Procedure |
|---|---|---|---|
| (J) * | Transmitted Power Confirmation | - | **Remove the Antenna before starting step from 1 to 4.**<br>1. Configure the DECT tester (CMD60) as follows;<br><Setting><br><br>-Test mode: PP<br>-RFPI: 0102030408<br>-Traffic Carrier: 5<br>-Traffic Slot: 4<br>-Mode: Loopback<br>-RF LEVEL = -70dBm<br>2. Execute the command "regcmd60 01 02 03 04 08".<br>3. Initiate connection from DECT tester.<br>4. Confirm that the NTP value at A201 (TP15) is 20dBm ~ 25dBm. |
| (K) * | Modulatoin Check and Adjusment | - | Follow steps 1 to 3 of (J) above.<br><br>4.Confirm that the B-Field Modulation is 360kHz/div ~ 380kHz/ div using data type Fig 31.<br>5.Adjust the B-Field Modulation if required. (Execute the command "Readmod" and "wrtmod xx", where xx is the value.) |
| (L) | Frequency Offset Confirmation | - | Follow steps 1 to 3 of (J) above.<br><br>4.Confirm that the frequency Offset is -50kHz ~ +50kHz. |

| | Items | Adjustment Point | Procedure |
|---|---|---|---|
| **(M)** | **Frequency Drift Confirmation** | **-** | **Follow steps 1 to 3 of (J) above.**<br><br>**4.Confirm that the frequency Drift is < ± 30kHz/ms.** |
| **(N)** | **Sensitivity Receiver Confirmation** | **-** | **Follow steps 1 to 3 of (J) above.**<br><br>**4.Set DECT tester power to -88dBm.**<br>**5.Confirm that the BER is < 1000ppm.** |
| **(O)** | **Timing Confirmation** | **-** | **Follow steps 1 to 3 of (J) above.**<br><br>**4.Confirm that the Timing accuracy is < ± 0.5ppm.** |

| | Items | Adjustment Point | Procedure |
|---|---|---|---|
| (P) * | RSSI Level Confirmation | - | Follow steps 1 to 3 of (J) above.<br><br>4.Set DECT tester power to -81dBm.<br>5.Execute the command “readrssi“.<br>6.Confirm that the returned value is 0x09 (hex) ~ 0x19 (hex).<br>7.Set DECT tester power to -63dBm.<br>8.Execute the command “readrssi“.<br>9.Confirm that the returned value is 0x16 (hex) ~ 0x26 (hex). |
| (Q) | Power RAMP Confirmation | - | Follow steps 1 to 3 of (J) above.<br><br>4.Confirm that Power RAMP is matching. |
| (R) | Audio Check and confirmation | - | 1. Link to BASE which is connected to Line Simulator.<br>2. Set line voltage to 48V and line current to 40mA.<br>3. Input -45dBm/1KHz to MIC and measure Line output level.<br>4. Confirm that the level is -10dBm ± 5dB and confirm that the distortion level is < 5% at TEL Line (600 Ω Road).<br>5. Input -20dBm/1KHz to Line I/F and measure Receiving level at REV1 and REV2.<br>6. Confirm that the level is -23dBm ± 5dB and confirm that the distortion level is < 5% at Receiver (Volume Middle, 150 Ω Road). |

<table>
<tr><th></th><th>Items</th><th>Adjustment Point</th><th>Procedure</th></tr>
<tr><td>(S)</td><td>SP phone Audio check and confirmation</td><td>-</td><td>1. Link to Base which is connected to Line Simulator.<br>2. Set line voltage to 48V and line current to 40mA.<br>3. Set the handset off-hook using SP-Phone key.<br>4. Input -45dBm/1KHz to MIC and measure Line output level.<br>5. Confirm that the level is -6dBm ± 1.5dB and confirm that the distortion level is < 5% at TEL Line (600 Ω Road).<br>6. Input -20dBm/1KHz to Line I/F and measure Receiving level at SP1 and SP2.<br>7. Confirm that the level is -6.5dBm ± 1.5dB and confirm that the distortion level is < 5% at Receiver (Volume Middle, 150 Ω Road).</td></tr>
<tr><td>(T)</td><td>Headset Audio check and confirmation</td><td>-</td><td>1. Link to BASE which is connected to Line Simulator.<br>2. Set line voltage to 48V and line current to 40mA.<br>3. Input -45dBm/1kHz across Mic terminals on headset cable.<br>4. Confirm that the level is -15dBm ± 5dB and confirm that the distortion level is < 5% at TEL Line (600 Ω Road).<br>5. Input -20dBm/1kHz to Line I/F.<br>6. Confirm that the level is -24dBm ± 5dB and confirm that the distortion level is < 5% at Receiver (Volume Middle, 150 Ω Road).<br>(SP terminals on headset cable is load of 150 Ω )</td></tr>
<tr><td>(U) *</td><td>EEP-ROM confirmation</td><td>-</td><td>1. EEP-ROM Confirmation.<br>2. Confirm the returned check sum Value.<br><br>(for KX-TCD530SL)<br>ex.)<table><tr><th>program number</th><th>command</th><th>checksum value</th></tr><tr><td>D312ZH</td><td>Chk151SLRv04.bat</td><td>753C</td></tr></table><br>(for KX-TCA151EX)<br>ex.)<table><tr><th>program number</th><th>command</th><th>checksum value</th></tr><tr><td>D312ZE</td><td>Chk151BXRv03.bat</td><td>7577</td></tr><tr><td>D312ZH</td><td>Chk151BXRv05.bat</td><td>757F</td></tr></table></td></tr>
</table>

**Note:**
**After the measuring, sock up the solder of TP.**
*** : PC Setting () is required beforehand.**
**The connection of adjustment equipment are as shown in Adjustment Standard (Cordless Handset) ().**

## 14.2. Adjustment Standard (Cordless Handset)

**When connecting the Simulator Equipments for checking, please refer to below.**

**Note:**
**(A) - (U) is refered to ADJUSTMENTS (CORDLESS HANDSET) ()**

# 15. RF SPECIFICATION

## 15.1. Base Unit

| Item | Value | Refer to -. * | Remar |
|---|---|---|---|
| TX Power | 20 dBm ~ 25 dBm | Adjustment (Base Unit) (I) | |
| Modulation | 360 kHz/div ~ 380 kHz/ div | Adjustment (Base Unit) (J) | Data type: |
| Frequency Offset | -50 kHz ~ +50 kHz | Adjustment (Base Unit) (K) | |
| RX Sensitivity | < 1000 ppm | Adjustment (Base Unit) (M) | |
| Timing Accuracy | -2.0 ppm ~ +2.0 ppm | Adjustment (Base Unit) (N) | |
| RSSI Level | 0x11 (hex) ~ 0x25 (hex) | Adjustment (Base Unit) (O) | |

*** : Refer to Adjustment (Base Unit) ()**

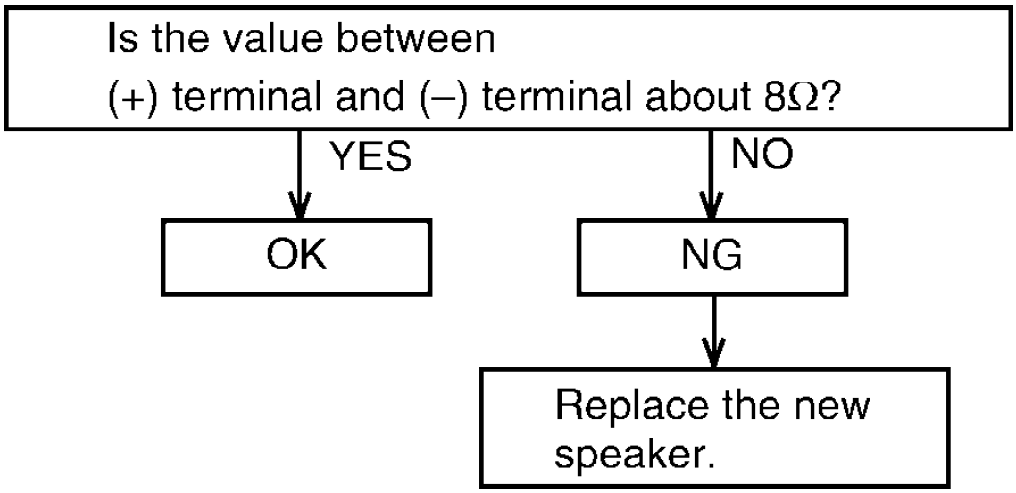
## 15.2. Cordless Handset

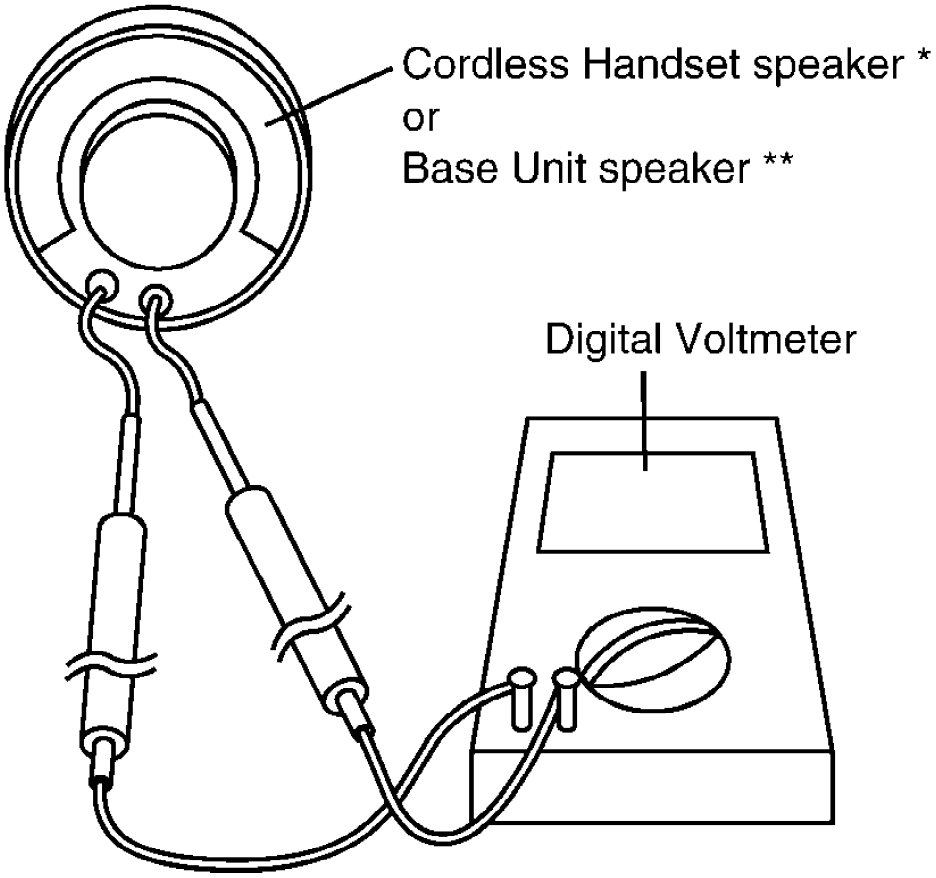
| Item | Value | Refer to -. ** | Remar |
|---|---|---|---|
| TX Power | 20 dBm ~ 25 dBm | Adjustment (Cordless Handset) (J) | |
| Modulation | 360 kHz/div ~ 380 kHz/ div | Adjustment (Cordless Handset) (K) | Data type: |
| Frequency Offset | -50 kHz ~ +50 kHz | Adjustment (Cordless Handset) (L) | |
| Frequency Drift | < ± 30 kHz / ms | Adjustment (Cordless Handset) (M) | |
| RX Sensitivity | < 1000 ppm | Adjustment (Cordless Handset) (N) | |
| Timing Accuracy | < ± 0.5 ppm | Adjustment (Cordless Handset) (O) | |
| RSSI Level | 0×09 (hex) ~ 0×19 (hex) (at -81dBm) 0×16 (hex) ~ 0×26 (hex) (at -63dBm) | Adjustment (Cordless Handset) (P) | |
| Power RAMP | Power RAMP is matching | Adjustment (Cordless Handset) (Q) | |

** : Refer to Adjustment (Cordless Handset) ()

# 16. HOW TO CHECK THE CORDLESS HANDSET AND BASE UNIT SPEAKER

1. Prepare the digital voltmeter, and set the selector knob to ohm meter.
2. Put the probes at the speaker terminals as shown below.

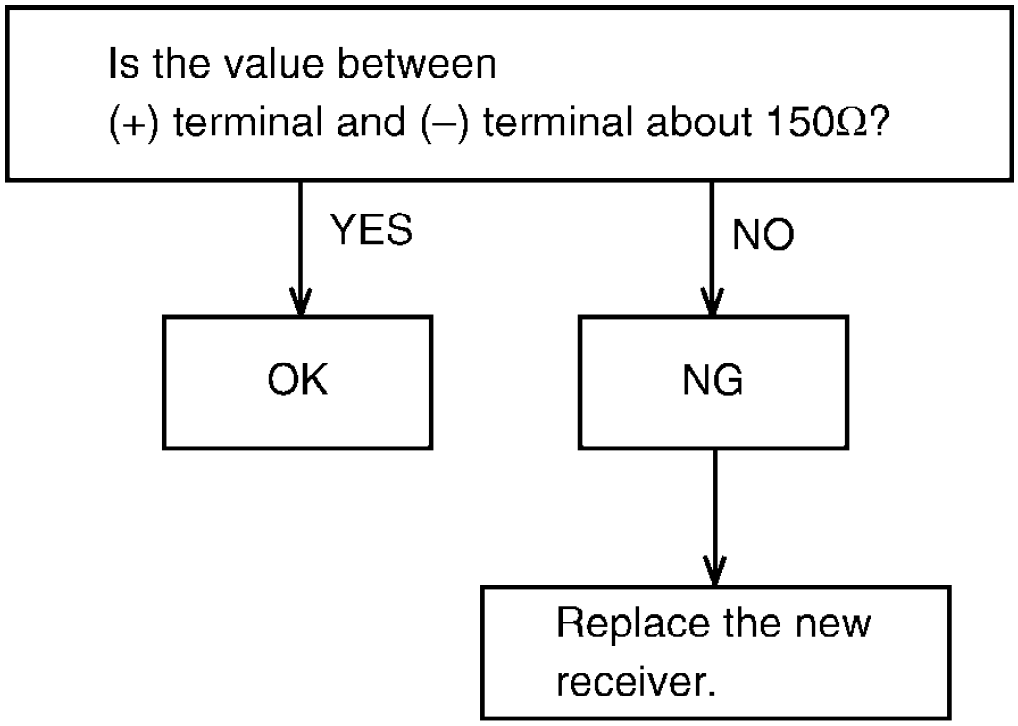


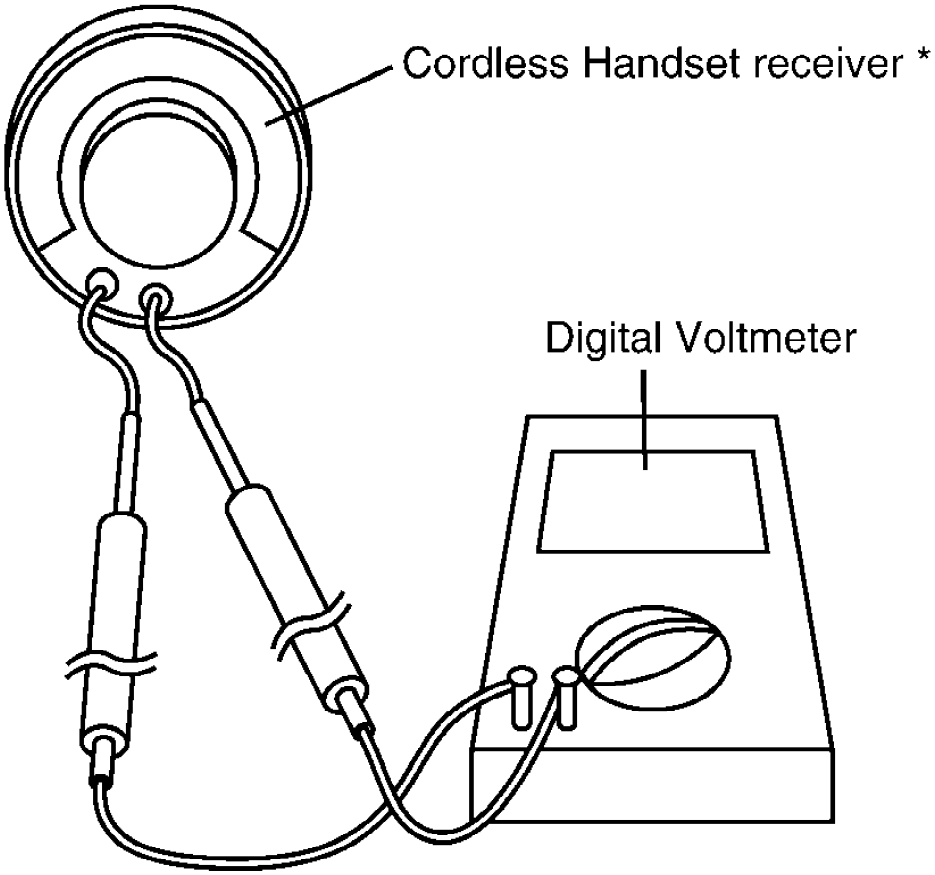




**Note:**
*** : Refer to Cabinet and Electrical Parts () of Cordless Handset replacement part lists.**
**** : Refer to Cabinet and Electrical Parts () of Base Unit replacement part lists.**

# 17. HOW TO CHECK THE CORDLESS HANDSET RECEIVER

1. **Prepare the digital voltmeter, and set the selector knob to ohm meter.**
2. **Put the probes at the receiver terminals as shown below.**




**Note:**

*** : Refer to Cabinet and Electrical Parts () of cordless Handset replacement part lists.**

# 18. FREQUENCY TABLE (MHz)

| | BASE UNIT | | CORDLESS HANDSET | |
|---|---|---|---|---|
| Channel No | Transmit Frequency | Receive Frequency | Transmit Frequency | Receive Fr |
| 1 | 1897.344 | 1897.344 | 1897.344 | 1897.3 |
| 2 | 1895.616 | 1895.616 | 1895.616 | 1895.6 |
| 3 | 1893.888 | 1893.888 | 1893.888 | 1893.8 |
| 4 | 1892.160 | 1892.160 | 1892.160 | 1892.1 |
| 5 | 1890.432 | 1890.432 | 1890.432 | 1890.4 |
| 6 | 1888.704 | 1888.704 | 1888.704 | 1888.7 |
| 7 | 1886.976 | 1886.976 | 1886.976 | 1886.9 |
| 8 | 1885.248 | 1885.248 | 1885.248 | 1885.2 |
| 9 | 1883.520 | 1883.520 | 1883.520 | 1883.5 |
| 10 | 1881.792 | 1881.792 | 1881.792 | 1881.7 |

**Note:**
**Channel No. 10: In the Test Mode on Base Unit and Cordless Handset.**

# 19. BLOCK DIAGRAM (BASE UNIT)

# 20. CIRCUIT OPERATION (BASE UNIT)

## 20.1. Outline

**Base Unit consists of the following ICs as shown in BLOCK DIAGRAM (BASE UNIT) ().**

- **DECT BBIC (Base Band IC): IC2**
- **Handling all the audio, signal and data processing needed in a DECT base unit**
- **Controlling the DECT specific physical layer and radio section (B urst Module Controller section)**
- **ADPCM codec filter for speech encoding and speech decoding (DSP section)**
- **Echo-cancellation and Echo-suppression (DSP section)**
- **Any tones (tone, sidetone, ringing tone, etc.) generation (DSP section)**
- **DTMF receiver (DSP section)**
- **Clock Generation for RF Module**
- **ADC, DAC, timer, and power control circuitry**
- **All interfaces (ex: RF module, EEPROM, LED, Analog Front End,**

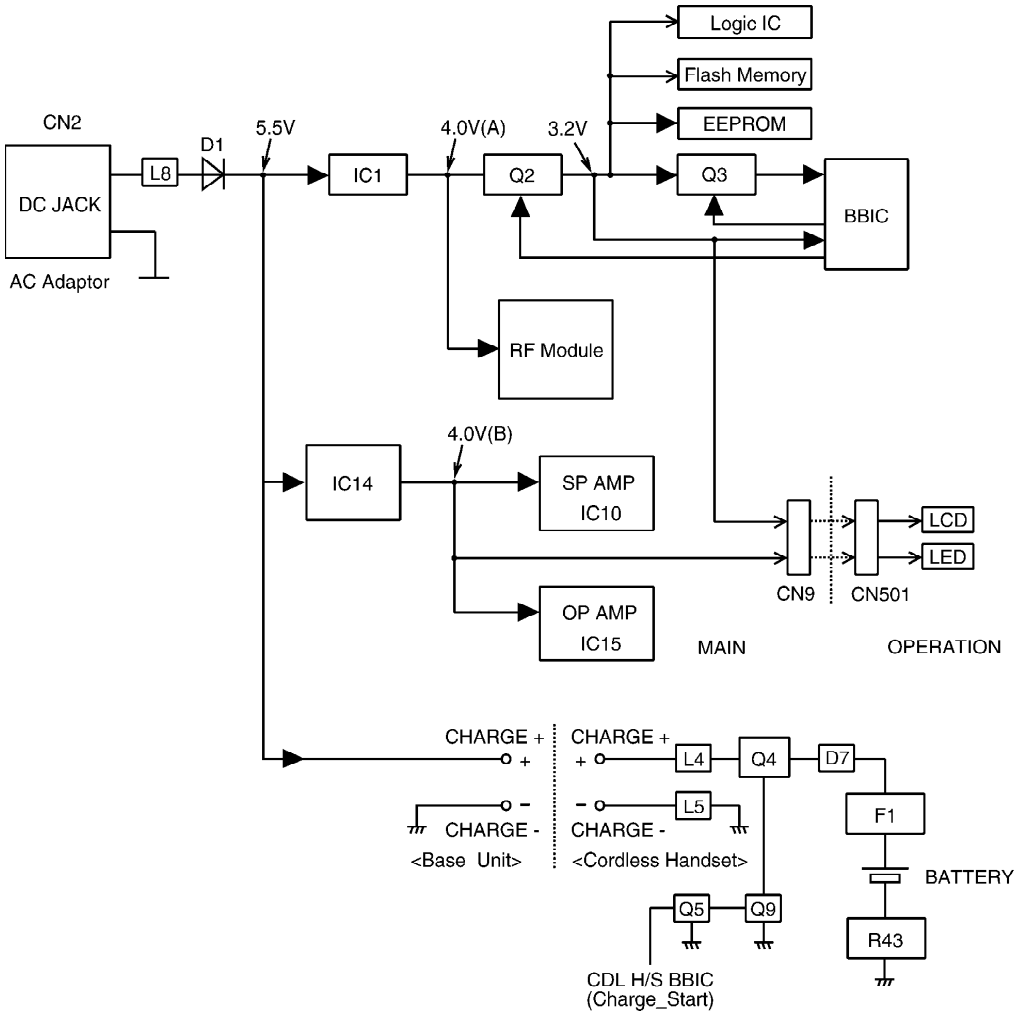
etc.)
- RF Module: RFM1
- PLL Oscillator
- Detector
- Compress/Expander
- First/Second Mixer
- Amplifier for transmission and reception
- FLASH MEMORY: IC7
- Program D/L (DownLoad) Area
- EEPROM: IC3
- Temporary operating parameters (for RF, etc.)

Refer to EEPROM LAYOUT (BASE UNIT) ().
- Additionally,
- Power Supply Circuit (+4.0V (A), +3.2V, +1.8V output)
- Crystal Circuit (10.368MHz)
- Telephone Line Interface Circuit
- SP Phone Circuit
- Curl Cord Handset Interface Circuit

## 20.2. Power Supply Circuit

The power is supplied to the DECT BBIC, RF Module, EEPROM, SP AMP, LED from AC Adaptor (+6V) as shown in Fig.101. The power supply is as follows;
- DECT BBIC (IC2): CN2(+6V) → L8 → D1 → IC1 → Q2 → IC2
- RF Module (RFM1): CN2(+6V) → L8 → D1 → IC1 → RF Module
- EEPROM (IC3): CN2(+6V) → L8 → D1 → IC1 → Q2 → IC3
- Flash Memory (IC7): CN2(+6V) → L8 → D1 → IC1 → Q2 → IC7
- SP AMP (IC10): CN2(+6V) → L8 → D1 → IC14 → IC10
- Logic IC (IC12, IC13): CN2(+6V) → L8 → D1 → IC1 → Q2 → IC12, IC13
- LCD (CN502): CN2(+6V) → L8 → D1 → IC1 → Q2 → CN9 → CN501 → CN502(LCD)
- LED (LED501, LED502, LED503, LED504): CN2(+6V) → L8 → D1 → IC14 → CN9 → CN501 → LED
- OP AMP (IC15): CN2(+6V) → L8 → D1 → IC14 → IC15

<Fig.101>




## 20.3. Telephone Line Interface

**<Function>**

- **Bell signal detection**
- **Clip signal detection**
- **ON/OFF hook circuit**
- **Audio circuits**

**Bell & Clip (: Calling Line Identification Presentation: Caller ID) signal detection:**
**In the standby mode, Q4 is open to cut the DC loop current and decrease the ring load. When ring voltage appears at the TP21 (A) and TP19 (B) leads (when the telephone rings), the signal is transferred as follows;**

- **A → C13 → R17 → R24 → IC2 Pin 107 (CID IN +)**
- **B → C12 → R16 → R32 → IC2 Pin 112 (CID IN -)**

**ON/OFF hook circuit:**

**In the standby mode, Q4 is open, and connected as to cut the DC loop current and to cut the voice signal. The unit is consequently in an on-hook condition.**
**When IC2 detects a ring signal or press SP Key or pick up Curl Cord Handset or press the TALK Key onto the handset, Q5 turns on and then Q4 turns on, thus providing an off-hook condition (active DC current flow through the circuit) and the following signal flow is for the loop current.**
**- A → D3 → Q4 → R34 → Q8 → R45 → R46 → D3 → B [OFF HOOK]**

## 20.4. Transmitter/Receiver

**Base Unit and Cordless Handset mainly consist of RF Module and DECT BBIC.**
**Base Unit and Cordless Handset transmit/receive voice signal and data signal through the antenna on carrier frequency.**

**Signal Pass:**
***Refer to SIGNAL ROUTE ().**

### 20.4.1. Transmitter Block

**The voice signal input from the TEL LINE interface goes to RF Module (RFM1) through DECT BBIC (IC2) as shown in BLOCK DIAGRAM (BASE UNIT) ()**
**The voice signal passes through the analog part of IC2 where it is amplified and converted to a digital audio stream signal. The burst switch controller processes this stream performing encryption and scrambling, adding the various other fields to produce the GAP (Generic Access Profile) standard DECT frame, assigning to a time slot and channel etc.**
**In RFM1, the carrier frequency is changing, and frequency modulated RF signal is generated and amplified, and radiated from antenna. Cordless Handset detects the voice signal or data signal in the circuit same as the following explanation of Receiver Block.**

### 20.4.2. Receiver Block

**The signal of 19.2 MHz band (18.81792 MHz ~ 18.97344 MHz) which is input from antenna is input to RFM1 as shown in BLOCK DIAGRAM (BASE UNIT) ().**
**In RFM1, the signal of 19.2 MHz band is downconverted to 864 kHz signal and demoduleted, and goes to IC2 as GAP (Generic Access Profile) standard DECT frames. It passes through the decoding section burst switch controller where it separates out the frame information and performs de-encryption and de-scrambling as required. It then goes to the DSP section where it is turned back into analog audio. This is amplified by the analog front end, and goes to the TEL LINE Interface.**

# 21. BLOCK DIAGRAM (CORDLESS HANDSET)

# 22. CIRCUIT OPERATION (CORDLESS HANDSET)

## 22.1. Outline

Cordless Handset consists of the following ICs as shown in BLOCK DIAGRAM (CORDLESS HANDSET) ().

- DECT BBIC (Base Band IC): IC1
- All data signals (forming/analyzing ACK or CMD signal)
- All interfaces (ex: Key, Detector Circuit, Charge, DC/DC Converter, EEPROM, LCD)
- RF Module: IC3
- PLL Oscillator
- Detector
- Compress/Expander
- Amplifier for transmission and reception
- AMP: IC2
- Single OP_AMP for SP
- MIDI (Musical Instrument Digital Interface): IC4
- 16-Tone 32-Poly PCM Sound Generator
- Port (LED direct driver with PWM)
- EEPROM: IC10
- Temporary operating parameters (for RF, etc.)

Refer to EEPROM LAYOUT (CORDLESS HANDSET) ().

## 22.2. Power Supply Circuit/Reset Circuit

**Circuit Operation:**
When power on the Cordless Handset, the voltage is as follows;
BATTERY(2.2 V ~ 2.6V: J1) → L1, D1, Q2 (1.8V) → Q3 (2.7V) → Q1 (4.0V)
The Reset signal generates IC1 (78) and 1.8V.

## 22.3. Charge Circuit

**Circuit Operation:**
When charging the cordless handset on the Base Unit, the charge current is as follows;
DC+(5.5V ~ 6V) → D1 → R4, R5 → CHARGE+(Base) → CHARGE+(Cordless Handset) → L4 → Q4 → D7 → F1 → BATTERY+ ... Battery ... BATTERY- → R43 → GND → CHARGE-(Cordless Handset) → CHARGE-(Base) → GND → DC-(GND)
In this way, the BBIC on Cordless Handset detects the fact that the battery is charged.
The charge current is controlled by switching Q5 of Cordless Handset.
Refer to Fig.101 in Power Supply Circuit ().

## 22.4. Battery Low/Power Down Detector

**Circuit Operation:**
**"Battery Low" and "Power Down" are detected by BBIC which check the voltage from battery. The detected voltage is as follows;**

**- Battery Low**

**Battery voltage: V(Batt) ≦ 2.3V ± 50mV**

**The BBIC detects this level and "" starts flashing.**

**- Power Down**

**Battery voltage: V(Batt) ≦ 2.2V ± 50mV**

**The BBIC detects this level and power down.**

**Refer to Adjustment (Cordless Handset) ().**

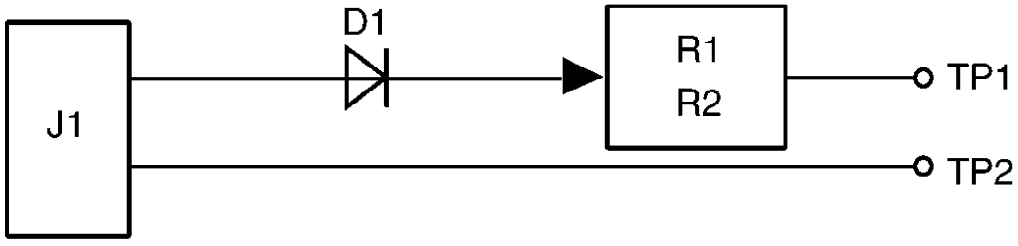
## 22.5. Speakerphone and Headset Jack

**The hands-free loudspeaker at SP+ and SP- is used to generate the ring alarm. IC2 is used to switch off the telephone loudspeaker and is used to amplify the signal to drive the hands-free loudspeaker. They are selected using the SP_AMP line from pin 70 of the BBIC. 2.5mm headset jack is also available.**

# 23. CIRCUIT OPERATION (CHARGER UNIT)

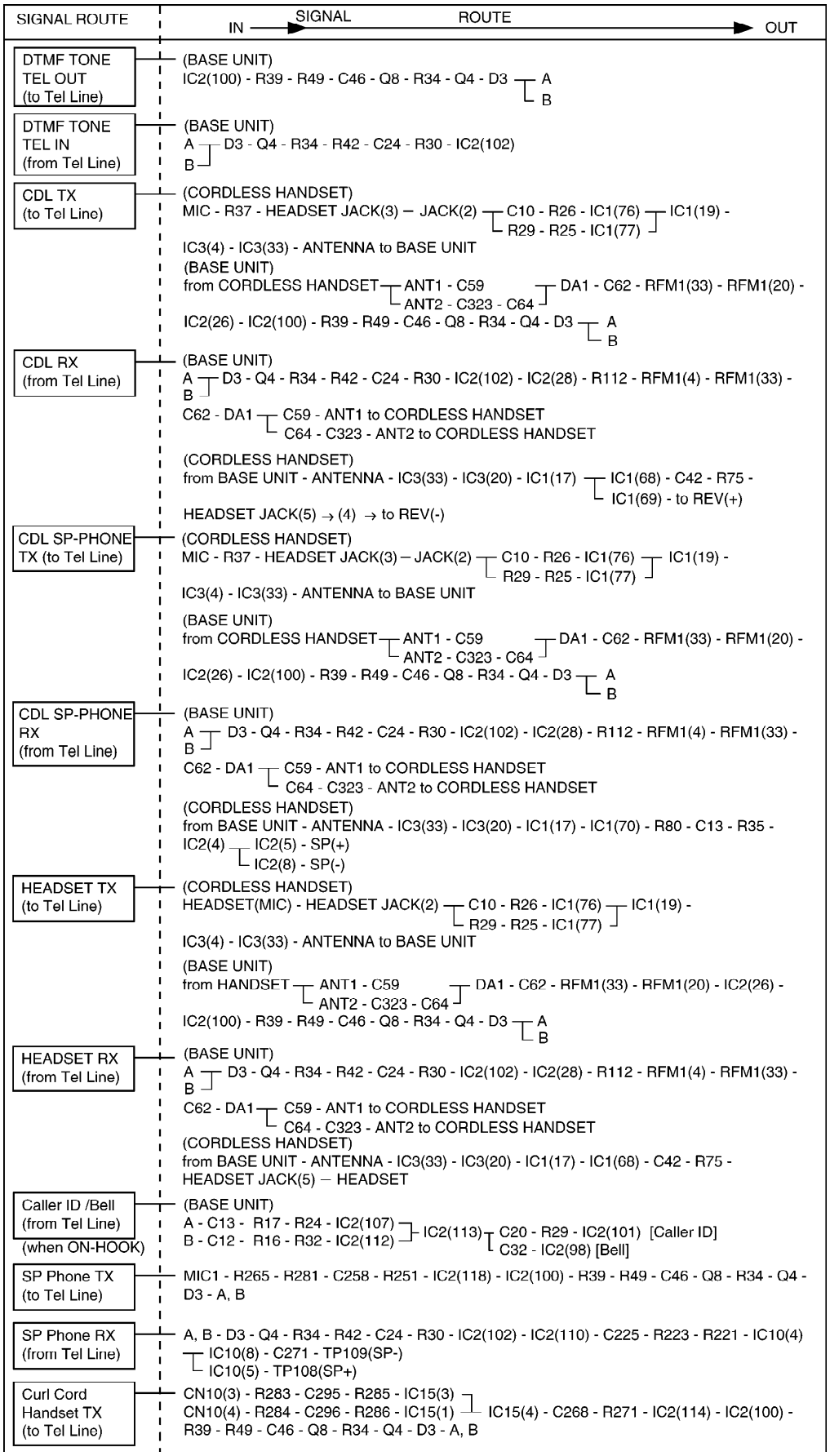
## 23.1. Power Supply Circuit

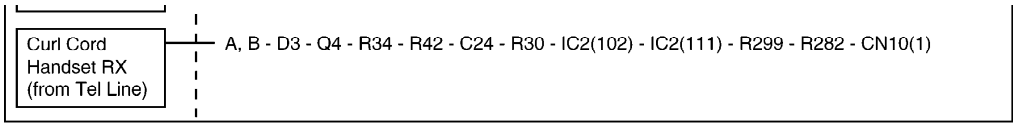
**The power supply is as shown.**




AC Adaptor

# 24. SIGNAL ROUTE


SIGNAL ROUTE
IN
SIGNAL
ROUTE
OUT
DTMF TONE TEL OUT (to Tel Line)
(BASE UNIT)
IC2(100) - R39 - R49 - C46 - Q8 - R34 - Q4 - D3 - A, B
DTMF TONE TEL IN (from Tel Line)
(BASE UNIT)
A, B - D3 - Q4 - R34 - R42 - C24 - R30 - IC2(102)
CDL TX (to Tel Line)
(CORDLESS HANDSET)
MIC - R37 - HEADSET JACK(3) - JACK(2) - C10 - R26 - IC1(76) - IC1(19) - R29 - R25 - IC1(77)
IC3(4) - IC3(33) - ANTENNA to BASE UNIT
(BASE UNIT)
from CORDLESS HANDSET - ANT1 - C59 / ANT2 - C323 - C64 - DA1 - C62 - RFM1(33) - RFM1(20) -
IC2(26) - IC2(100) - R39 - R49 - C46 - Q8 - R34 - Q4 - D3 - A, B
CDL RX (from Tel Line)
(BASE UNIT)
A, B - D3 - Q4 - R34 - R42 - C24 - R30 - IC2(102) - IC2(28) - R112 - RFM1(4) - RFM1(33) -
C62 - DA1 - C59 - ANT1 to CORDLESS HANDSET / C64 - C323 - ANT2 to CORDLESS HANDSET
(CORDLESS HANDSET)
from BASE UNIT - ANTENNA - IC3(33) - IC3(20) - IC1(17) - IC1(68) - C42 - R75 - IC1(69) - to REV(+)
HEADSET JACK(5) → (4) → to REV(-)
CDL SP-PHONE TX (to Tel Line)
(CORDLESS HANDSET)
MIC - R37 - HEADSET JACK(3) - JACK(2) - C10 - R26 - IC1(76) - IC1(19) - R29 - R25 - IC1(77)
IC3(4) - IC3(33) - ANTENNA to BASE UNIT
(BASE UNIT)
from CORDLESS HANDSET - ANT1 - C59 / ANT2 - C323 - C64 - DA1 - C62 - RFM1(33) - RFM1(20) -
IC2(26) - IC2(100) - R39 - R49 - C46 - Q8 - R34 - Q4 - D3 - A, B
CDL SP-PHONE RX (from Tel Line)
(BASE UNIT)
A, B - D3 - Q4 - R34 - R42 - C24 - R30 - IC2(102) - IC2(28) - R112 - RFM1(4) - RFM1(33) -
C62 - DA1 - C59 - ANT1 to CORDLESS HANDSET / C64 - C323 - ANT2 to CORDLESS HANDSET
(CORDLESS HANDSET)
from BASE UNIT - ANTENNA - IC3(33) - IC3(20) - IC1(17) - IC1(70) - R80 - C13 - R35 -
IC2(4) - IC2(5) - SP(+) / IC2(8) - SP(-)
HEADSET TX (to Tel Line)
(CORDLESS HANDSET)
HEADSET(MIC) - HEADSET JACK(2) - C10 - R26 - IC1(76) - IC1(19) - R29 - R25 - IC1(77)
IC3(4) - IC3(33) - ANTENNA to BASE UNIT
(BASE UNIT)
from HANDSET - ANT1 - C59 / ANT2 - C323 - C64 - DA1 - C62 - RFM1(33) - RFM1(20) - IC2(26) -
IC2(100) - R39 - R49 - C46 - Q8 - R34 - Q4 - D3 - A, B
HEADSET RX (from Tel Line)
(BASE UNIT)
A, B - D3 - Q4 - R34 - R42 - C24 - R30 - IC2(102) - IC2(28) - R112 - RFM1(4) - RFM1(33) -
C62 - DA1 - C59 - ANT1 to CORDLESS HANDSET / C64 - C323 - ANT2 to CORDLESS HANDSET
(CORDLESS HANDSET)
from BASE UNIT - ANTENNA - IC3(33) - IC3(20) - IC1(17) - IC1(68) - C42 - R75 -
HEADSET JACK(5) - HEADSET
Caller ID /Bell (from Tel Line)
(when ON-HOOK)
(BASE UNIT)
A - C13 - R17 - R24 - IC2(107)
B - C12 - R16 - R32 - IC2(112)
IC2(113) - C20 - R29 - IC2(101) [Caller ID]
C32 - IC2(98) [Bell]
SP Phone TX (to Tel Line)
MIC1 - R265 - R281 - C258 - R251 - IC2(118) - IC2(100) - R39 - R49 - C46 - Q8 - R34 - Q4 - D3 - A, B
SP Phone RX (from Tel Line)
A, B - D3 - Q4 - R34 - R42 - C24 - R30 - IC2(102) - IC2(110) - C225 - R223 - R221 - IC10(4)
IC10(8) - C271 - TP109(SP-)
IC10(5) - TP108(SP+)
Curl Cord Handset TX (to Tel Line)
CN10(3) - R283 - C295 - R285 - IC15(3)
CN10(4) - R284 - C296 - R286 - IC15(1)
IC15(4) - C268 - R271 - IC2(114) - IC2(100) - R39 - R49 - C46 - Q8 - R34 - Q4 - D3 - A, B




# 25. CPU DATA (BASE UNIT)

## 25.1. IC2 (BBIC)

| Pin No | Description | I/O | Connection | at Normal mode | at Rese |
|---|---|---|---|---|---|
| 1 | VDDIO | - | VDDIO | - | - |
| 2 | VSS | - | VSS | - | - |
| 3 | AD8 | D.O | AD8 | O | O-I |
| 4 | AD9 | D.O | AD9 | O | O-I |
| 5 | AD10 | D.O | AD10 | O | O-I |
| 6 | AD11 | D.O | AD11 | O | O-I |
| 7 | AD12 | D.O | AD12 | O | O-I |
| 8 | AD13 | D.O | AD13 | O | O-I |
| 9 | AD14 | D.O | AD14 | O | O-I |
| 10 | P3[7]/PD7 | D.O | P3[7] | O | O-H |
| 11 | P3[1]/PD1 | D.O | P3[1] | O | O-H |
| 12 | P3[5]/PD5 | D.O | ANT1 | O | O-H |
| 13 | P3[4]/PD4 | D.O | ANT2 | O | O-H |
| 14 | P3[3]/PD3 | D.O | PAON | O | O-H |
| 15 | P3[2]/PD2 | D.O | RXDSG | O | O-H |
| 16 | VDD | - | VDD | - | - |
| 17 | VSS | - | VSS | - | - |
| 18 | RFCLK | D.O | RFCLK | O | O-L |
| 19 | VDDRF | - | VDDRF | - | - |
| 20 | VSSRF | - | VSSRF | - | - |
| 21 | Xtal1 | A.I | Xtal1 | I | I |
| 22 | CAP | A.I | CAP | I | I |
| 23 | AVS | - | AVS | - | - |
| 24 | AVD | - | AVD | - | - |
| 25 | RSSI | A.I | RSSI | I | I |
| 26 | RDI | A.I | RXDA | I | I |
| 27 | CMPREF | A.I | CMPREF | I | I |
| 28 | TDO | A.O | TXDA | O | O-H |
| 29 | AD15 | D.O | AD15 | O | O-I |
| 30 | AD16 | D.O | AD16 | O | O-I |
| 31 | AD17 | D.O | AD17 | O | O-I |
| 32 | AD18 | D.O | AD18 | O | O-I |
| 33 | AD19 | D.O | AD19 | O | O-I |
| 34 | AD20 | D.O | AD20 | O | O-I |
| 35 | AD21 | D.O | AD21 | O | O-I |
| 36 | AD22 | D.O | AD22 | O | O-I |
| 37 | AD23 | D.O | AD23 | O | O-I |

| Pin No | Description | I/O | Connection | at Normal mode | at Rese |
|---|---|---|---|---|---|
| 38 | LE | D.O | LE | O | O-L |
| 39 | SO | D.O | SO | O | O-L |
| 40 | SK | D.O | SK | O | O-H |
| 41 | DAC/ADC2 | A.I | ADC2 | I | I |
| 42 | P3[6]/PD6 | D.O | CE | O | O-H |
| 43 | RDN | D.O | RDN | O | O-I |
| 44 | WRN | D.O | WRN | O | O-I |
| 45 | MI/READY | D.O | MI/READY | O | I |
| 46 | SCLK | D.O | SCLK | O | O-I |
| 47 | UTX/P0[0] | D.O | UTX | O | I |
| 48 | URX/P0[1] | D.I | URX | I | I |
| 49 | JTIO/P0[2] | D.I/O | JTIO | I/O | I |
| 50 | PCM_FSC1/P0[3] | D.I | P0[3] | I | I |
| 51 | PCM_FSC0/P0[4] | D.I | P0[4] | I | I |
| 52 | PCM_CLK/P0[5] | D.I | P0[5] | I | I |
| 53 | PCM_DOUT/P0[6] | D.I | P0[6] | I | I |
| 54 | PCM_DIN/P0[7] | D.I | P0[7] | I | I |
| 55 | VDDIO | - | VDDIO | - | - |
| 56 | VSS | - | VSS | - | - |
| 57 | INT0n/P1[0] | D.O | ALE | O | I |
| 58 | INT1n/P1[1] | D.O | CLE | O | I |
| 59 | ACS1/INT2n/P1[2] | D.O | ACS1 | O | I |
| 60 | ACS0 | D.O | ACS0 | O | O-I |
| 61 | ACS2/INT3n/P1[3] | D.O | ACS2 | O | I |
| 62 | INT4n/P1[4] | D.I | HOOK_SW | I | I |
| 63 | INT5n/P1[5] | D.I | R/_B | I | O-I |
| 64 | BE1n | D.O | BE1n | O | O-I |
| 65 | BE0n | D.O | BE0n | O | O-I |
| 66 | SCL2/P3[0] | D.O | SCL2 | O | O-H |
| 67 | SDA2 | D.I/O | SDA2 | I/O | I |
| 68 | DAB0 | D.I/O | DAB0 | I/O | I |
| 69 | DAB8 | D.I/O | DAB8 | I/O | I |
| 70 | DAB1 | D.I/O | DAB1 | I/O | I |
| 71 | DAB9 | D.I/O | DAB9 | I/O | I |
| 72 | DAB2 | D.I/O | DAB2 | I/O | I |
| 73 | DAB10 | D.I/O | DAB10 | I/O | I |
| 74 | DAB3 | D.I/O | DAB3 | I/O | I |
| 75 | DAB11 | D.I/O | DAB11 | I/O | I |
| 76 | VSS | - | VSS | - | - |
| 77 | VDD | - | VDD | - | - |
| 78 | VDDIO | - | VDDIO | - | - |
| 79 | P2[0]/PWM0 | D.O | P2[0] | O | I |
| 80 | P2[1]/PWM1 | D.O | P2[1] | O | I |
| 81 | P2[2]/ADC0 | A.I | ADC0 | I | I |

| Pin No | Description | I/O | Connection | at Normal mode | at Rese |
|---|---|---|---|---|---|
| 82 | P2[3]/ADC1 | A.I | ADC1 | I | I |
| 83 | P2[4]/SCL1 | D.O | SCL1 | O | I |
| 84 | P2[5]/SDA1 | D.O | SDA1 | O | I |
| 85 | DAB4 | D.I/O | DAB4 | I/O | I |
| 86 | DAB12 | D.I/O | DAB12 | I/O | I |
| 87 | DAB5 | D.I/O | DAB5 | I/O | I |
| 88 | DAB13 | D.I/O | DAB13 | I/O | I |
| 89 | DAB6 | D.I/O | DAB6 | I/O | I |
| 90 | DAB14 | D.I/O | DAB14 | I/O | I |
| 91 | DAB7 | D.I/O | DAB7 | I/O | I |
| 92 | DAB15 | D.I/O | DAB15 | I/O | I |
| 93 | TM | D.I | TM | I | O-L |
| 94 | P2[7]/SPIDO | D.O | P2[7] | O | O-H |
| 95 | P1[6]/PON | A.I | PON | I | I |
| 96 | P1[7]/CHARGE | D.I | P1[7] | I | I |
| 97 | P2[6]/stop_charge | D.O | RLY | O | O-L |
| 98 | VBAT3/RINGING | A.I | RINGING | I | I |
| 99 | LINEREF | A.O | LINEREF | O | - |
| 100 | LINEOUT | A.O | LINEOUT | O | - |
| 101 | LINE_IN+ | A.I | LINE_IN+ | I | - |
| 102 | LINE_IN- | A.I | LINE_IN- | I | - |
| 103 | LDO1_Senes | A.I | LDO1_Senes | I | I |
| 104 | LDO1_CTRL | A.O | LDO1_CTRL | O | O-I |
| 105 | LDO2_CTRL | A.O | LDO2_CTRL | O | O-L |
| 106 | VBAT2 | A.I | VBAT2 | I | I |
| 107 | CIDIN+ | A.I | CIDIN+ | I | I |
| 108 | AVS2 | - | AVS2 | - | - |
| 109 | AVD2 | - | AVD2 | - | - |
| 110 | LSR+/REF | A.O | LSR+ | O | C |
| 111 | LSR-/REF | A.O | LSR- | O | C |
| 112 | CIDIN- | A.I | CIDIN- | I | C |
| 113 | CIDOUT | A.O | CIDOUT | O | C |
| 114 | MIC- | A.I | MIC- | I | I |
| 115 | VREF- | A.O | VREF- | O | C |
| 116 | VBUF | A.O | VBUF | O | C |
| 117 | AGND | A.O | AGND | O | C |
| 118 | MIC+ | A.I | MIC+ | I | I |
| 119 | VREF+ | A.O | VREF+ | O | I |
| 120 | RSTn | A.I | RSTn | I | I |
| 121 | AD0/EXT_MEMORY | D.I | EXT_MEMORY | I | I |
| 122 | AD1 | D.O | AD1 | O | O-I |
| 123 | AD2 | D.O | AD2 | O | O-I |
| 124 | AD3 | D.O | AD3 | O | O-I |
| 125 | AD4 | D.O | AD4 | O | O-I |

| Pin No | Description | I/O | Connection | at Normal mode | at Rese |
|---|---|---|---|---|---|
| 126 | AD5 | D.O | AD5 | O | O-I |
| 127 | AD6 | D.O | AD6 | O | O-I |
| 128 | AD7 | D.O | AD7 | O | O-I |

# 26. CPU DATA (CORDLESS HANDSET)

## 26.1. IC1 (BBIC)

| Pin No | Description | I/O | Connection | at Normal mode | at Rese |
|---|---|---|---|---|---|
| 1 | P3_7/PD7 | D,O | LCD_A0 | O | C |
| 2 | P3_1/PD1 | D,O | RXDSG | O | C |
| 3 | P3_5/PD5 | D,O | SPAMP CD | O | C |
| 4 | P3_4/PD4 | D,I/O | MIDI ERQ | I | C |
| 5 | P3_3/PD3 | D,O | PAON | O | C |
| 6 | P3_2/PD2 | D,O | PSEL | O | C |
| 7 | VDD | - | - | - | - |
| 8 | VSS | - | - | - | - |
| 9 | RFCLK | D,O | SYRI | O | C |
| 10 | VDDRF | - | - | - | - |
| 11 | VSSRF | - | - | - | - |
| 12 | Xtal1 | A,I | ← | I | C |
| 13 | CAP | A,I | ← | I | C |
| 14 | AVS | - | - | - | - |
| 15 | AVD | - | - | - | - |
| 16 | RSSI | A,I | RSSI | I | C |
| 17 | RDI | D,I | RXDA | I | C |
| 18 | CMPREF | A,I | NC | OPEN | C |
| 19 | TDO | A,O | TXDA | A,O | C |
| 20 | LE | D,O | SYEN | D,O | C |
| 21 | SO | D,O | SYDA | D,O | C |
| 22 | SK | D,O | SYCL | D,O | C |
| 23 | DAC/ADC2 | D,I | JACK DETECTION | I | C |
| 24 | P3_6/PD6 | D,I/O | MIDI_SRQ | I | C |
| 25 | UTX/P0_0 | D,O | UTX | O | C |
| 26 | URX/P0_1 | D,I | URX | I | C |
| 27 | JTIO/P0_2 | D,I | JTAG | I | C |
| 28 | PCM_FSC1/P0_3 | D,I | COL1 | I | C |
| 29 | PCM_FSC0/P0_4 | D,I | COL2 | I | C |
| 30 | PCM_CLK/P0_5 | D,I | COL3 | I | C |
| 31 | PCM_DOUT/P0_6 | D,I | COL4 | I | C |
| 32 | PCM_DIN/P0_7 | D,I | COL5 | I | C |
| 33 | VDDIO | - | - | - | - |
| 34 | VSS | - | - | - | - |

| Pin No | Description | I/O | Connection | at Normal mode | at Rese |
|---|---|---|---|---|---|
| 35 | INT0n/P1_0 | D,O | ROW0 | O | C |
| 36 | INT1n/P1_1 | D,O | ROW1 | O | C |
| 37 | INT2n/P1_2 | D,O | ROW2 | O | C |
| 38 | INT3n/P1_3 | D,O | ROW3 | O | C |
| 39 | INT4n/P1_4 | D,I | MIDI_IRQ | I | C |
| 40 | VDDE/INT5n/P1_5 | D,O | COL0 | O | - |
| 41 | SCL2/P3_0 | D,O | SCL | O | C |
| 42 | SDA2 | D,I/O | SDA | I/O | C |
| 43 | VSS | - | - | - | - |
| 44 | VDD | - | - | - | - |
| 45 | P2_0/PWM0 | D,O | PWM0 | O | C |
| 46 | P2_1/PWM1 | D,O | CS2 | O | C |
| 47 | P2_2/ADC0 | D,O | EX_RESET | O | C |
| 48 | P2_3/ADC1 | D,O | MIDI-CS | O | C |
| 49 | P2_4/SCL1 | D,O | LCD-SCLK<br>MIDI_SCLK | O | C |
| 50 | P2_5/SDA1 | D,O | LCD-SCLK<br>MIDI_SCLK | O | C |
| 51 | P2_7/DC_CTRL | D,O | DC_CTRL | O | C |
| 52 | DC_I | A,I | ← | I | C |
| 53 | P1_6/PON/INT6n | A,I | PON | I | C |
| 54 | P1_7/CHARGE/<br>INT7n | A,I | CHARGE | I | C |
| 55 | P2_6/stop_charge | A,O | STOP-CHARGE | O | C |
| 56 | VBAT3/RINGING | A,I | VBAT3 | I | C |
| 57 | DC_stab | A,O | ← | O | C |
| 58 | DC_Sense | A,I | ← | I | C |
| 59 | AVS_sense | A,I | ← | I | C |
| 60 | ADC3 | A,I | ← | I | C |
| 61 | LDO1_sense | A,I | ← | I | C |
| 62 | LDO1_CTRL | A,O | ← | O | C |
| 63 | LDO2_CTRL | A,O | ← | O | C |
| 64 | VBAT2 | A,I | ← | I | C |
| 65 | VBAT1 | A,I | ← | I | C |
| 66 | AVS2 | - | - | - | - |
| 67 | AVD2 | - | - | - | - |
| 68 | LSR+/REF | A,O | LSR+ | O | C |
| 69 | LSR-/REF | A,O | LSR- | O | C |
| 70 | LSR_HS/CIDIN- | A,O | LSR_HS | O | C |
| 71 | VREF_HS/CIDOUT | A,O | NC | OPEN | - |
| 72 | MIC- | A,I | ← | I | C |
| 73 | VREF- | A,O | ← | O | C |
| 74 | VBUF | A,O | ← | O | C |

| Pin No | Description | I/O | Connection | at Normal mode | at Rese |
|---|---|---|---|---|---|
| 75 | AGND | A,O | ← | O | C |
| 76 | MIC+ | A,I | ← | I | C |
| 77 | VREF+/CIDIN+ | A,O | VREF+ | O | C |
| 78 | RSTN | D,I | ← | I | C |
| 79 | VDDIO | - | - | - | - |
| 80 | VSS | - | - | - | - |

**Note:**
**JACK DETECTION; Detect if a Headset is inserted into the JACK or not. Without a Headset, 1.5V is measured at pin 23, while with a Headset, 0V is measured at pin 23.**

# 27. EEPROM LAYOUT (BASE UNIT)

## 27.1. Scope

**The purpose of this section is to describe the layout of the EEPROM (IC3) for the KX-TCD530 Base Unit.**
**The EEPROM contains hardware, software, and user specific parameters. Some parameters are set during production of the base e.g. crystal frequency adjustment at address 0286, some are set by the user configuration e.g. ringer volume at address 02C5, and some are set during normal use of the phone e.g. Caller ID data at address 096A..0FDB.**

## 27.2. Introduction

**The base unit uses a 128K bit serial EEPROM (IC3) for storing volatile parameters. All parameters are set up before the base leaves the factory. Some of these are vital for the operation of the hardware so a set of default parameters is programmed before the actual hardware fine-tuning can be initiated. This document lists all default settings with a short description.**
**In the tables below values in a range that are similar are not repeated; i.e. Address 00 to 01 contains the value 00 simply means that the value 00 is repeated in all addresses in the range.**
**All values in this document are in hexadecimal notation.**

| Initial Type | Description |
|---|---|
| F | The data initialized by only F command |
| 0 | The data initialized by F and 0 command |
| 1 | The data initialized by F, 0 and 1 command |
| 2 | The data initialized by all command (F,0,1,2) |

| Country Setting | Description |
|---|---|
| x | Default - no specific country setting, so revert to default value. |

## 27.3. EEPROM Layout

### 27.3.1. General Setup1

| Address | Initial Type | Name | Description | Default value |
|---|---|---|---|---|
| 0 | - | EEP_EepromType | EEPROM type<br>0x00:32kbit type TCD500/510<br>0x55:64kbit type TCD530/540<br>0xAA:128kbit type TCD505/515/535/545<br>other:32kbit type | 0x00 |
| 1 | F | EEP_ModelInfo | Model information<br>Bit0:TAM 1:Enable 0:Disable<br>Bit1:Base Phonebook 1...1:Enable, 0:Disable<br>Bit2:Audible Call...1:Enable, 0:Disable<br>Bit3:SP-PHONE...1:Enable, 0:Disable<br>Bit4-7:Not used<br>TCD500/505: 0x00<br>TCD510/515: 0x07<br>TCD530/535: 0x0A<br>TCD540/545: 0x0F | 0x00 |
| 24A | 1 | EEP_MenusEnabled | Menus Enabled<br>Bit0= Menu of Select Dial Mode 1:Enable 0: Disable<br>Bit1=Flash Type1 Menu...1:Enable, 0:Disable<br>Bit2=Flash Type2 Menu...1:Enable, 0:Disable<br>Bit3=Flash Type3 Menu...1:Enable, 0:Disable<br>Bit4=Menu of Select Pause time...1:Enable, 0 :Disable | 0x1E |

### 27.3.2. General Setup2

| Address | Initial Type | Name | Description | Default value |
|---|---|---|---|---|
| 280 | F | EEP_Rfpi | Base ID<br>written data by adjustment checker or ID writer<br>RFPI (5Byte) | 0xFF,0xFF,0xF<br>0xFF,0xFF |
| 286 | F | EEP_FreqTrim_L | Setting value of FREQ_TRM_RE | 0x75 |
| 287 | F | EEP_BandGap | Setting value of BandGap REG | 0x08 |
| 288 | F | EEP_Rc0 | BMC internal Register 0 | 0x10 |
| 29B | 1 | EEP_RxAtteCrcErrorRsc | Attenuation parameter Crc Error Rsc | 0x43 |
| 398 | 0 | EEP_Ps0_InUseFlag | IN-Use Flag<br>00:Invalid / 01:Valid | 0x00 |
| 399 | 0 | EEP_Ps0_DectPsNo | DECT PS No.<br>00-3F:PS No. / FF:Invalid | 0xFF |
| 39A | 0 | EEP_Ps0_PsType | PS Type<br>00:KME's PS (Group Page )<br>01:KME's PS (Group Page/Message Waiting)<br>02:TD-7500 or TD-7590 / FF:Another Maker's PS | 0xFF |
| 39B | 0 | EEP_Ps0_Ipui | PS ID<br>first byte:0xA8 (Length Infomation)<br>from second byte:IPUI (Normal:5byte Max.13byte) | 0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00 |
| 3E0 | 0 | EEP_Ps1_InUseFlag | IN-Use Flag<br>00:Invalid / 01:Valid | 0x00 |
| 3E1 | 0 | EEP_Ps1_DectPsNo | DECT PS No.<br>00-3F:PS No. / FF:Invalid | 0xFF |
| 3E2 | 0 | EEP_Ps1_PsType | PS Type<br>00:KME's PS (Group Page ) / 01:KME's PS (Group Page/Message Waiting)<br>02:TD-7500 or TD-7590 / FF:Another Maker’s PS | 0xFF |
| 3E3 | 0 | EEP_Ps1_Ipui | PS ID<br>IPUI (14Byte) | 0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00 |
| 428 | 0 | EEP_Ps2_InUseFlag | IN-Use Flag<br>00:Invalid / 01:Valid | 0x00 |
| 429 | 0 | EEP_Ps2_DectPsNo | DECT PS No.<br>00-3F:PS No. / FF:Invalid | 0xFF |

| Address | Initial Type | Name | Description | Default value |
|---|---|---|---|---|
| 42A | 0 | EEP_Ps2_PsType | PS Type<br>00:KME's PS (Group Page ) / 01:KME's PS (Group Page/Message Waiting)<br>02:TD-7500 or TD-7590 / FF:Another Maker's PS | 0xFF |
| 42B | 0 | EEP_Ps2_Ipui | PS ID<br>IPUI (14Byte) | 0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00 |
| 470 | 0 | EEP_Ps3_InUseFlag | IN-Use Flag<br>00:Invalid / 01:Valid | 0x00 |
| 471 | 0 | EEP_Ps3_DectPsNo | DECT PS No.<br>00-3F:PS No. / FF:Invalid | 0xFF |
| 472 | 0 | EEP_Ps3_PsType | PS Type<br>00:KME's PS (Group Page ) / 01:KME's PS (Group Page/Message Waiting)<br>02:TD-7500 or TD-7590 / FF:Another Maker's PS | 0xFF |
| 473 | 0 | EEP_Ps3_Ipui | PS ID<br>IPUI (14Byte) | 0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00 |
| 4B8 | 0 | EEP_Ps4_InUseFlag | IN-Use Flag<br>00:Invalid / 01:Valid | 0x00 |
| 4B9 | 0 | EEP_Ps4_DectPsNo | DECT PS No.<br>00-3F:PS No. / FF:Invalid | 0xFF |
| 4BA | 0 | EEP_Ps4_PsType | PS Type<br>00:KME's PS (Group Page ) / 01:KME's PS (Group Page/Message Waiting<br>02:TD-7500 or TD-7590 / FF:Another Maker's PS | 0xFF |
| 4BB | 0 | EEP_Ps4_Ipui | PS ID<br>IPUI (14Byte) | 0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00,0x0<br>0x00,0x00 |
| 500 | 0 | EEP_Ps5_InUseFlag | IN-Use Flag<br>00:Invalid / 01:Valid | 0x00 |
| 501 | 0 | EEP_Ps5_DectPsNo | DECT PS No.<br>00-3F:PS No. / FF:Invalid | 0xFF |

| Address | Initial Type | Name | Description | Default value |
|---|---|---|---|---|
| 502 | 0 | EEP_Ps5_PsType | PS Type<br>00:KME's PS (Group Page ) / 01:KME's PS (Group Page/Message Waiting<br>02:TD-7500 or TD-7590 / FF:Another Maker's PS | 0xFF |

### 27.3.3. Flash Time Setting

| Address | Initial Type | Name | Description | Default value |
|---|---|---|---|---|
| E | 1 | FlashTime1 | Calibrated loop-break time for short break<br>Unit : 10 ms, defaults to 700 ms | 0x46 |
| F | 1 | FlashTime2 | Calibrated loop-break time for long break<br>Unit : 10 ms, defaults to 80 ms | 0x08 |
| 10 | 1 | FlashTime3 | Calibrated loop-break time for extra-long break<br>Unit : 10 ms, defaults to 400 ms | 0x28 |

### 27.3.4. Clip (Caller ID) configuration

| Address | Initial Type | Name | Description | Default value |
|---|---|---|---|---|
| 59 | 1 | EEP_ClipDetectConfig | CLIP detect configuration<br>Bit0-2:Mode...0:Learn mode, 1:DTMF only, 2: FSK only, 3:FSK/DTMF both, 4:Russian CLIP only<br>Bit3:Unused3<br>Bit4:Onhook...1=enable, 0=disable<br>Bit5:Offhook...1=enable, 0=disable<br>Bit6:MsgWaiting...1=enable, 0=disable<br>Bit7:Unused7 | 0x73 |
| 5A | 1 | EEP_ClipRingConfig | Ring configuration<br>Bit0:Rpas...1=enable, 0=disable<br>Bit1:RpasAlert...1=enable, 0=disable<br>Bit2:Rpas2LongAlert...1=enable, 0=disable<br>Bit3:Suppress1stRing...1=enable, 0=disable<br>Bit4-7:Unused | 0x00 |

| Address | Initial<br><br>Type | Name | Description | Default value |
|---|---|---|---|---|
| 5B | 1 | EEP_ImpSetConfig | Impedance Set configuration<br>Bit0:Polarity...1=enable, 0=disable<br>Bit1:Dtas...1=enable, 0=disable<br>Bit2:Rpas...1=enable, 0=disable<br>Bit3:PowerRing...1=enable, 0=disable<br>Bit4:LearnImpPattern...1=enable, 0=disable<br>Bit5:CheckPolStatus...1=enable, 0=disable<br>Bit6-7: Unused | 0x15 |
| 5C | 1 | EEP_ImpRemConfig | Impedance Remove configuration<br>Bit0:Polarity...1=enable, 0=disable<br>Bit1:Ringing...1=enable, 0=disable<br>Bit2:ClipReceived...1=enable, 0=disable<br>Bit3:Offhook...1=enable, 0=disable<br>Bit4:ChszDet...1=enable, 0=disable<br>Bit5-7:Unused | 0x0F |
| 5D | 1 | EEP_CasAckDtmf | CAS Acknowledge DTMF tone<br>00:DTMF 0 - 09:DTMF 9<br>0A:DTMF A<br>0B:DTMF B<br>0C:DTMF C<br>0D:DTMF D<br>0E:DTMF *<br>0F:DTMF # | 0x0D |
| 5E | 1 | EEP_DtmfReceiveDataCount | Valid Receive data Count (for INDIA) | 0x04 |
| 5F | 1 | EEP_ClipPhaseConfig | CLIP phase set configuration<br>Bit0:ForwardNumber...1=enable, 0=disable<br>Bit1:CallingNumber...1=enable, 0=disable<br>Bit2:Dutch...1=enable, 0=disable<br>Bit3:Canadian...1=enable, 0=disable<br>Bit4:KpnVmwi...1=enable, 0=disable<br>Bit5:PriorityCheck...1=enable, 0=disable<br>Bit6-7:AddZero...0:no add zero, 1:add zero absolutely 2:Check Number's top is zero. If it is zero, add zero. | 0x04 |
| 60 | 1 | EEP_ClipPhaseConfig2 | CLIP phase set configuration<br>Bit0:FskRemoveParity...1=enable, 0=disable<br>Bit1:AutoRappel...1=enable, 0=disable<br>Bit2:KpnStartEndNg<br>Bit3-7:Unused | 0x01 |
| 61 | 1 | EEP_AddZeroDataCount | Valid data for Add Zero (for NewZealand) | 0x05 |

| Address | Initial<br><br>Type | Name | Description | Default value |
|---|---|---|---|---|
| 62 | 1 | EEP_RingVmwiConfig | CLIP RingVmwi set configuration<br>Bit0:LongBellFuncOff...1=enable, 0=disable<br>Bit1:StatusSucceed...1=enable, 0=disable<br>Bit2-7:Unused | 0x01 |
| 63 | 1 | EEP_RpasMinDuration | RPAS minimum duration<br>Unit : 10ms, Default : 180ms | 0x12 |
| 64 | 1 | EEP_RpasMaxDuration | RPAS maximum duration<br>Unit : 10ms, Default : 320ms | 0x20 |
| 65 | 1 | EEP_DtasMinDuration | DTAS minimum duration<br>Unit : 10ms, Default : 60ms | 0x06 |
| 66 | 1 | EEP_DtasMaxDuration | DTAS maximum duration<br>Unit : 10ms, Default : 130ms | 0x0D |
| 67 | 1 | EEP_DtasDataTimeout | DTAS to FSK data timeout<br>Unit : 100ms, Default : 1s | 0x0A |
| 68 | 1 | EEP_ImpSetTimeout | Impedance Set timeout (RPAS for France)<br>Unit : 10ms, Default : 250ms<br>[Standard : 200-350ms] | 0x14 |
| 69 | 1 | EEP_ImpRemRpasTimeout | Impedance Remove timeout (RPAS)<br>Unit : 10ms, Default : 1250ms<br>[Standard : 1450ms (subtract Impedance Set timeout)] | 0x7D |
| 6A | 1 | EEP_ImpRemChszTimeout | Impedance Remove timeout (Channel Seizure)<br>Unit : 10ms, Default : 450ms<br>[Standard : 420-570ms] | 0x2D |
| 6B | 1 | EEP_ImpRemContTimeout | Impedance Remove timeout<br>Unit : 100ms, Default : 1s | 0x0A |
| 6C | 1 | EEP_CasMinDuration | CAS minimum duration<br>Unit : 10ms, Default : 60ms | 0x06 |
| 6D | 1 | EEP_CasMaxDuration | CAS maximum duration<br>Unit : 10ms, Default : 130ms | 0x0D |
| 6E | 1 | EEP_CasAckDelayTimeout | CAS to Acknowledge DTMF Delay Timeout<br>Unit : 1ms, Default : 0ms | 0x00 |
| 6F | 1 | EEP_CasAckDuration | Acknowledge DTMF tone duration<br>Unit : 1ms, Default : 70ms | 0x46 |
| 70 | 1 | EEP_CasAckDataTimeout | CAS to FSK data timeout<br>Unit : 10ms, Default : 600ms | 0x3C |
| 71 | 1 | EEP_FskInterdigitTimeout | FSK Interdigit timeout<br>Unit : 10ms, Defalut : 80ms | 0x08 |
| 72 | 1 | EEP_FskMarkoutTimeout | FSK Markout timeout after FSK received<br>Unit : 10ms, Default : 100ms | 0x0A |

| Address | Initial Type | Name | Description | Default value |
|---|---|---|---|---|
| 73 | 1 | EEP_DtmfMinDuration | DTMF minimum duration<br>Unit : 10ms, Default : 20ms | 0x02 |
| 74 | 1 | EEP_DtmfMaxDuration | DTMF maximum duration<br>Unit : 10ms, Default : disable(0xFF) | 0xFF |
| 75 | 1 | EEP_DtmfInterdigitTimeout | DTMF Interdigit timeout<br>Unit : 10ms, Default : 500ms | 0x32 |
| 76 | 1 | EEP_DtmfMuteTimeout | Mute timeout when OFFHOOK CLIP received (for DK)<br>Unit : 100ms, Default : 5s | 0x32 |
| 77 | 1 | EEP_DtmfBellWaitTimeout | Bell Wait timeout<br>Unit : 100ms, Default : 10s | 0x64 |
| 78 | 1 | EEP_RingVmwiMinDuration | Bell Ring minimum duration (for KPN VoiceMail)<br>Unit : 1s, Default : 14s | 0x0E |
| 79 | 1 | EEP_RingVmwiMaxDuration | Bell Ring maximum duration (for KPN VoiceMail)<br>Unit : 1s, Default : 22s | 0x16 |
| 7A | 1 | EEP_RingPulseMin | Bell Ring on minimum duration (for KPN VoiceMail)<br>Unit : 10ms, Default: 600ms | 0x3C |
| 7B | 1 | EEP_VmwiRingInterdigitMax | Bell Ring Interdigit maximum (for KPN VoiceMail)<br>Unit : 100ms, Default: 5000ms | 0x32 |
| 7C | 1 | EEP_RuDtmfDurationMin | RU_DTMF minimum duration<br>Unit : 10ms, Default : 10ms | 0x01 |
| 7D | 1 | EEP_RuDtmfDurationMax | RU_DTMF maximaum duration<br>Unit : 10ms, Default : 70ms | 0x07 |
| 7E | 1 | EEP_RuDtmfDurationOff | RU_DTMF Off duration<br>Unit : 10ms, Default : 50ms | 0x05 |
| 7F | 1 | EEP_RuConfig | Russian CLIP Configuration<br>Bit0:Unused<br>Bit1:RuClipMode...1=Auto, 0=Manual<br>Bit2:RuClipRbtOnOff...1=on, 0=off<br>Bit3-7:Unused | 0x00 |
| 80 | 1 | EEP_RuClipReqLength | Length of REQ signal<br>Unit : 10ms, Default : 140ms | 0x0E |
| 81 | 1 | EEP_RuClipDelayBetweenReq | Delay between REQ signal<br>Unit : 10ms, Default : 200ms | 0x14 |
| 82 | 1 | EEP_RuClipBackTraceTimeout | Back Trace Start Timeout<br>Unit : 10ms, Default : 600ms | 0x3C |
| 83 | 1 | EEP_RuClipRepeatReq | Number of repeat REQ request Sent<br>Default : 3 repeat | 0x03 |

| Address | Initial Type | Name | Description | Default value |
|---|---|---|---|---|
| 84 | 1 | EEP_RuClipDelayBeforeReq | Delay before Send REQ signal<br>Unit : 10ms, Default : 200ms | 0x14 |
| 85 | 1 | EEP_RuRcvDigitBeforeReq | Receive Digit Before REQ<br>Default : 2digit | 0x02 |
| 86 | 1 | EEP_PseudoBellLength | Pseudo Bell Length<br>Unit : 10ms, Default : 800ms | 0x50 |
| 87 | 1 | EEP_PseudoBellInterdigitTimeout | Pseudo Bell Interdigit Timeout<br>Unit : 100ms, Default : 3200ms | 0x20 |
| 88 | 1 | EEP_PseudoBellEndTimeout | Pseudo Bell End Timeout<br>Unit : 1s, Default : 30s | 0x1E |
| 89 | 1 | EEP_RuClipReqLev | RCID REQ signal Level<br>Default : -4.3dBm | 0x00, 0x19 |
| 272 | 2 | EEP_RuClipOnOff | Russian CLIP On/Off | 0x01 |
| 273 | 2 | EEP_RuClipRingNumBeforeSequence | Number Of Rings Patterns Before Start Sequence<br>Default : 1 | 0x01 |
| 274 | 2 | EEP_RuClipDisplayDigit | Number Of digits to be displayed<br>Default:7 digits | 0x07 |

# 28. EEPROM LAYOUT (CORDLESS HANDSET)

## 28.1. Scope

**The purpose of this section is to describe “layout of the EEPROM (IC10) KX-TCA151 Cordless Handset”.**
**The EEPROM contains hardware, software, and user specific parameters. Some parameters are set during production of the cordless handset e.g. crystal oscillator adjustment at 0057, some are set by the user when configuring the cordless handset e.g. ringer volume at 00A1, and some during normal use of the phone e.g. redial memory at 1EF6..1F77.**

## 28.2. Introduction

**The handset uses a 64k bit serial EEPROM (IC10) for storing volatile parameters. All parameters are set up before the cordless handset the factory. Some of these are vital for the operation of the hardware so a set of default parameters is programmed before the actual hardware fine-tuning can be initiated. This document lists all default settings with a short description.**
**This document lists all default parameters with a short description.**
**In the tables below values in a range that are similar are not repeated; i.e. Address 00 to 01 contains the value 00 simply means that the value 00 is repeated in all addresses in the range.**

| Initial Type | Description |
|---|---|
| F | The data initialized by only F command |
| 0 | The data initialized by F and 0 command |
| 1 | The data initialized by F, 0 and 1 command |
| 2 | The data initialized by all command (F,0,1,2) |

| Country Setting | Description |
|---|---|
| x | Default - no specific country setting, so revert to default value. |

## 28.3. EEPROM contents

### 28.3.1. General Setup

| Address | Initial Type | Name | Description | Default valu |
|---|---|---|---|---|
| 52 | F | EEP_Ipei | International Portable Part Equipment Identities.<br>A concatenation of an EMC and a unique 20 bit Serial Number. | 0x00,0x00,0x(<br>0x00,0x00 |
| 57 | F | EEP_FreqTrim_L | Setting value of FREQ_TRIM_REG | 0x75 |
| 58 | F | EEP_BandGap | Setting value of BandGap REG | 0x08 |
| 6B | 1 | EEP_LowQualityLevel | Signal quality level at which handover is initiated(CRC error count). | 0x10 |
| 74 | 1 | EEP_RxMuteSyncError | Continuous SYNC error times for the Rx Mute(0-0xFF:Error times). | 0x10 |
| 131 | 0 | EEP_HandsetNumber | HandsetNumber each Subscription. (wordx4subs) | 0xFF,0xFF,0x<br>0xFF,0xFF,0x<br>0xFF,0xFF |

| Address | Initial Type | Name | Description | Default valu |
|---|---|---|---|---|
| 139 | 0 | EEP_Subscription0 | GAP Subscription Data. Storage for 4 subscriptions each with 53bytes.<br><Subscription><br>12E : SUB_boAssignedIPUI<br>12F : SUB_abIPUI[14]<br>13D : SUB_abPARK[5]<br>142 : SUB_abSARI[4]<br>146 : SUB_bPLI<br>147 : SUB_bLAL<br>148 : SUB_abARIplusRPN[5]<br>14D : SUB_boZAP<br>14E : SUB_bZAP<br>14F : SUB_boServiceClass<br>150 : SUB_bServiceClass<br>151 : AK_boUAKavailable<br>152 : AK_boUAKproven<br>153 : AK_boUAK_or_AC [16] | All 0x00 |
| 1EBE | 2 | EEP_HSPinCode | Handset Pin : 4 BCD Digits | 0x00, 0x00 |

### 28.3.2. MMI Setting

| Address | Initial Type | Name | Description | Default valu |
|---|---|---|---|---|
| 82 | 1 | EEP_FactoryLanguageSetting | Selected Language for LCD<br>GERAM:0 ENGLISH:1 SPANISH:2<br>NORWEGIAN:3<br>FRENCH:4<br>ITALIAN:5 DENISH:6 DUTCH:7 SWEDISH:8<br>FINNISH:9<br>GREEK:10 TURKISH:11 HUNGARIAN:12<br>PORTUGUESE:13<br>RUSSIAN:14<br>POLISH:15 SLOVAKIAN:16 CZECH:17<br>CROATIAN:18<br>CATALAN:19 | 0x01 |
| 83 | 1 | EEP_Available_Language | Select Available Language<br>0:Disable<br>1:Enable | 0xFF,0xBF,0x |

| Address | Initial<br><br>Type | Name | Description | Default valu |
|---|---|---|---|---|
| 1EEF | 2 | EEP_Language | User_Setting Language<br>GERAM:0 ENGLISH:1 SPANISH:2<br>NORWEGIAN:3<br>FRENCH:4<br>ITALIAN:5 DENISH:6 DUTCH:7 SWEDISH:8<br>FINNISH:9<br>GREEK:10 TURKISH:11 HUNGARIAN:12<br>PORTUGUESE:13<br>RUSSIAN:14<br>POLISH:15 SLOVAKIAN:16 CZECH:17<br>CROATIAN:18<br>CATALAN:19 | 0x01 |
| 1EF0 | 2 | EEP_SmsEatoniLanguage | Eatoni Setting Language<br>GERAM:0 ENGLISH:1 SPANISH:2<br>NORWEGIAN:3<br>FRENCH:4<br>ITALIAN:5 DENISH:6 DUTCH:7 SWEDISH:8<br>FINNISH:9<br>GREEK:10 TURKISH:11 HUNGARIAN:12<br>PORTUGUESE:13<br>RUSSIAN:14<br>POLISH:15 SLOVAKIAN:16 CZECH:17<br>CROATIAN:18<br>CATALAN:19 | 0x01 |
| 1FED | 1 | EEP_CountryFunction | Country parameter<br>0bit: Reset Ear-SP Vol. after Talk...0: Hold, 1: Disable<br>1bit: PBX Phone-Book...0: Hold, 1: Disable<br>2-7bit: Reserve | 0x02 |

### 28.3.3. MMI1 Setting

| Address | Initial Type | Name | Description | Default valu |
|---|---|---|---|---|
| 2 | 1 | EEP_DspSdt2Level | DSP Parameter SideTone2<br>Main:SideTone2 Main route level<br>MictoRcv:SideTone2 MIc to Receiver level | 0xFF,0x7F,0x0<br>0x18 |
| 6 | 1 | EEP_DspToneLevel | DSP Parameter ToneLevel<br>Talk:Tone Level in Talk mode<br>Spp:Tone Level in Spp mode | 0xFF,0x7F,0xF<br>0x7F |
| A | 1 | EEP_DspRxMuteLevel | DSP Parameter RxMute Level<br>Talk:RxMute Level in Talk mode<br>Spp:RxMute Level in Spp mode | 0xFF,0x7F,0xF<br>0x7F |
| E | 1 | EEP_DspRcvVol | DSP Parameter Receiver Volume TX Level<br>TxTalk:Receiver Volume Tx Level in Talk mode<br>TxSpp:Receiver Volume Tx Level in Spp mode | 0xFF,0x7F,0xF<br>0x7F |
| 39 | 1 | EEP_LcdContrast | LCD contrast | 0x1E |
| 4B | 1 | EEP_CountryFunction01 | Country parameter<br>Bit0: Call waiting Tone on/off ...1:on, 0:off<br>Bit1-7: Reserve | 0x01 |
| 4C | 2 | EEP_EEToneConfig | Tone Option Data<br>Bit 0:Keytone on/off00 - 0000 = Off / 0001 = Tone On<br>Bit 1:Keytone on/off01 - Reserve<br>Bit 2:Keytone on/off02 - Reserve<br>Bit 3:Keytone on/off03 - Reserve<br>Bit 4:Call waiting on/off - 1/0<br>Bit 5:Range alarm on/off - 1/0<br>Bit 6:Battery low alarm on/off - 1/0 | 0x51 |

### 28.3.4. Battery Paramters

| Address | Initial Type | Name | Description | Default valu |
|---|---|---|---|---|
| 1 | F | EEP_LowVoltage | Number of ADC step for battery low | 0x30 |
| 36 | F | EEP_NoVoltage | Number of ADC step for batter empty | 0x22 |

# 29. HOW TO REPLACE FLAT PACKAGE IC

## 29.1. Preparation

**- PbF (: Pb free) Solder**

**- Soldering Iron**

**Tip Temperature of 700°F ± 20°F (370°C ± 10°C)**
**Note: We recommend a 30 to 40 Watt soldering iron. An expert may be able to use a 60 to 80 Watt iron where someone with less experience could overheat and damage the PCB foil.**

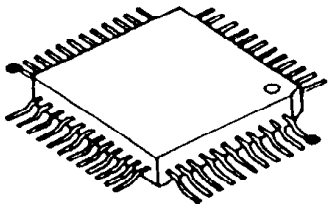
**- Flux**

**Recommended Flux: Specific Gravity → 0.82.**
**Type → RMA (lower residue, non-cleaning type)**

**Note: See ABOUT LEAD FREE SOLDER (PbF: Pb free) ().**

## 29.2. Procedure

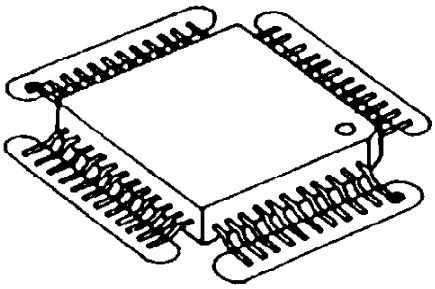
**1. Tack the flat pack IC to the PCB by temporarily soldering two diagonally opposite pins in the correct positions on the PCB.**



● – – – – – –Temporary soldering point.

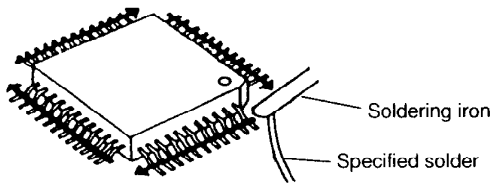
**Be certain each pin is located over the correct pad on the PCB.**

**2. Apply flux to all of the pins on the IC.**



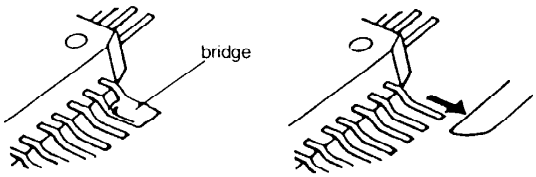
– – – – – – Flux

**3. Being careful to not unsolder the tack points, slide the soldering iron along the tips of the pins while feeding enough solder to the tip so that it flows under the pins as they are heated.**

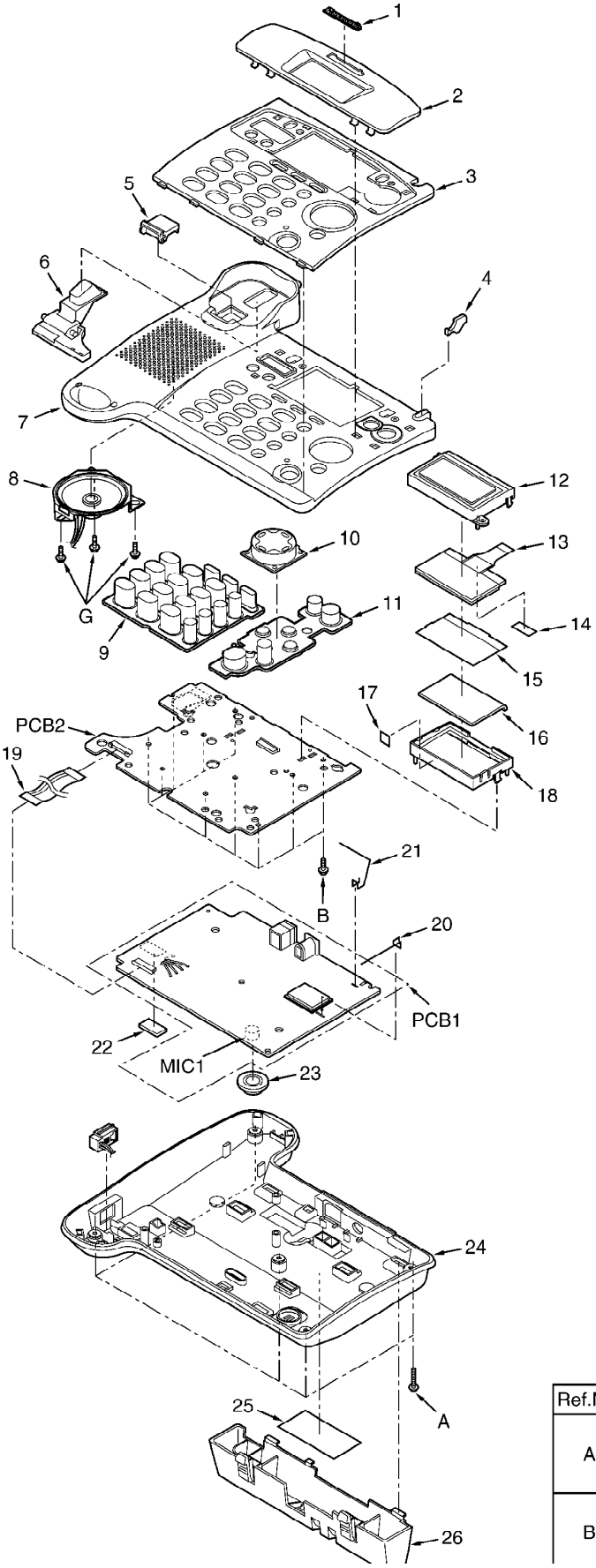


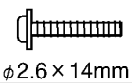

### 29.3. Modification Procedure of Bridge

1. **Add a small amount of solder to the bridged pins.**
2. **With a hot iron, use a sweeping motion along the flat part of the pin to draw the solder from between the adjacent pads.**



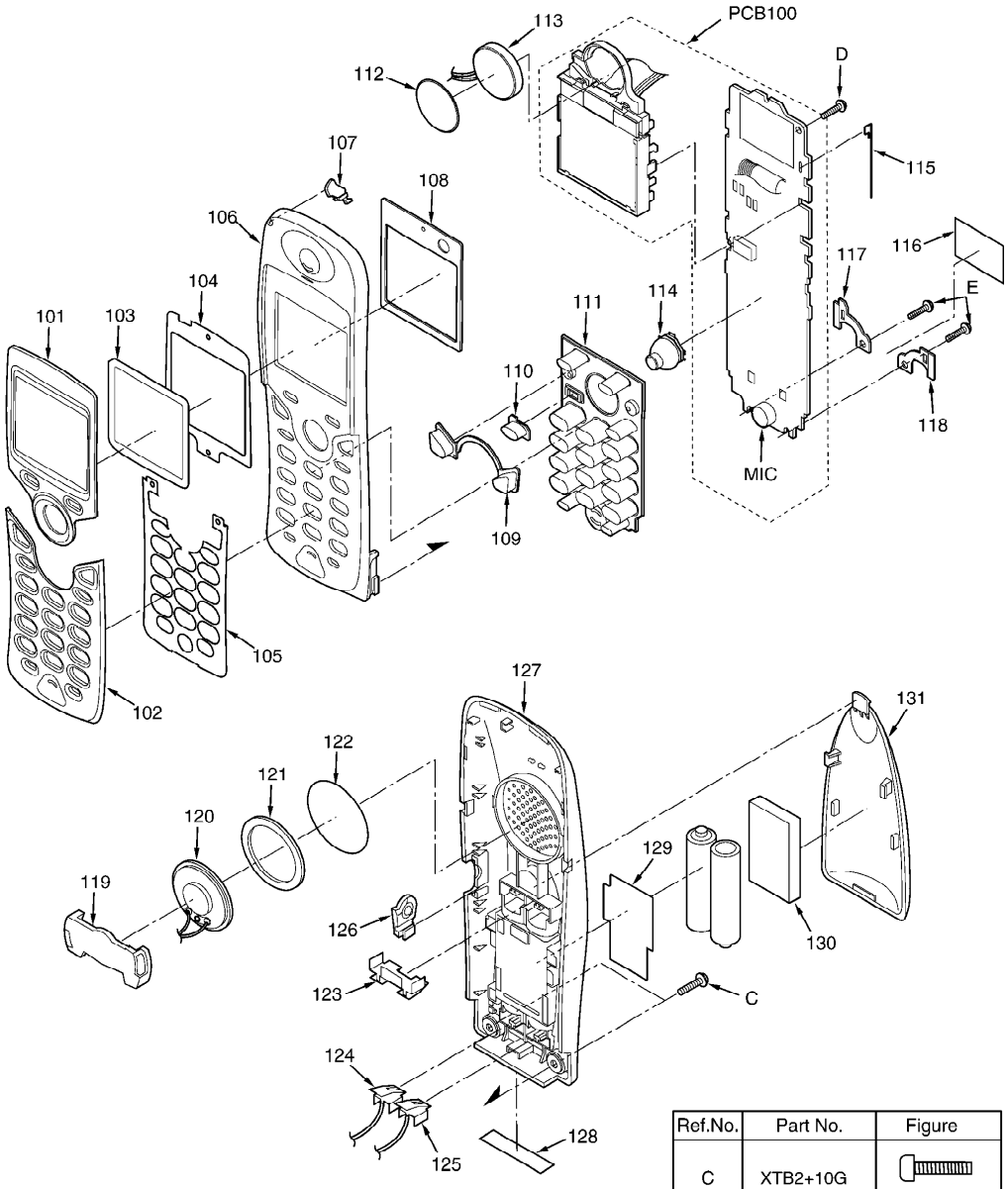

# 30. CABINET AND ELECTRICAL PARTS LOCATION (BASE UNIT)




| Ref.No. | Part No. | Figure |
|---|---|---|
| A | XTW26+14P |  ϕ2.6×14mm |
| B | XTW26+8P | ϕ2.6×8mm |

| | | |
|---|---|---|
| | | ϕ2.6 × 8mm |
| G | XTW26+8P | ϕ2.6 × 8mm |

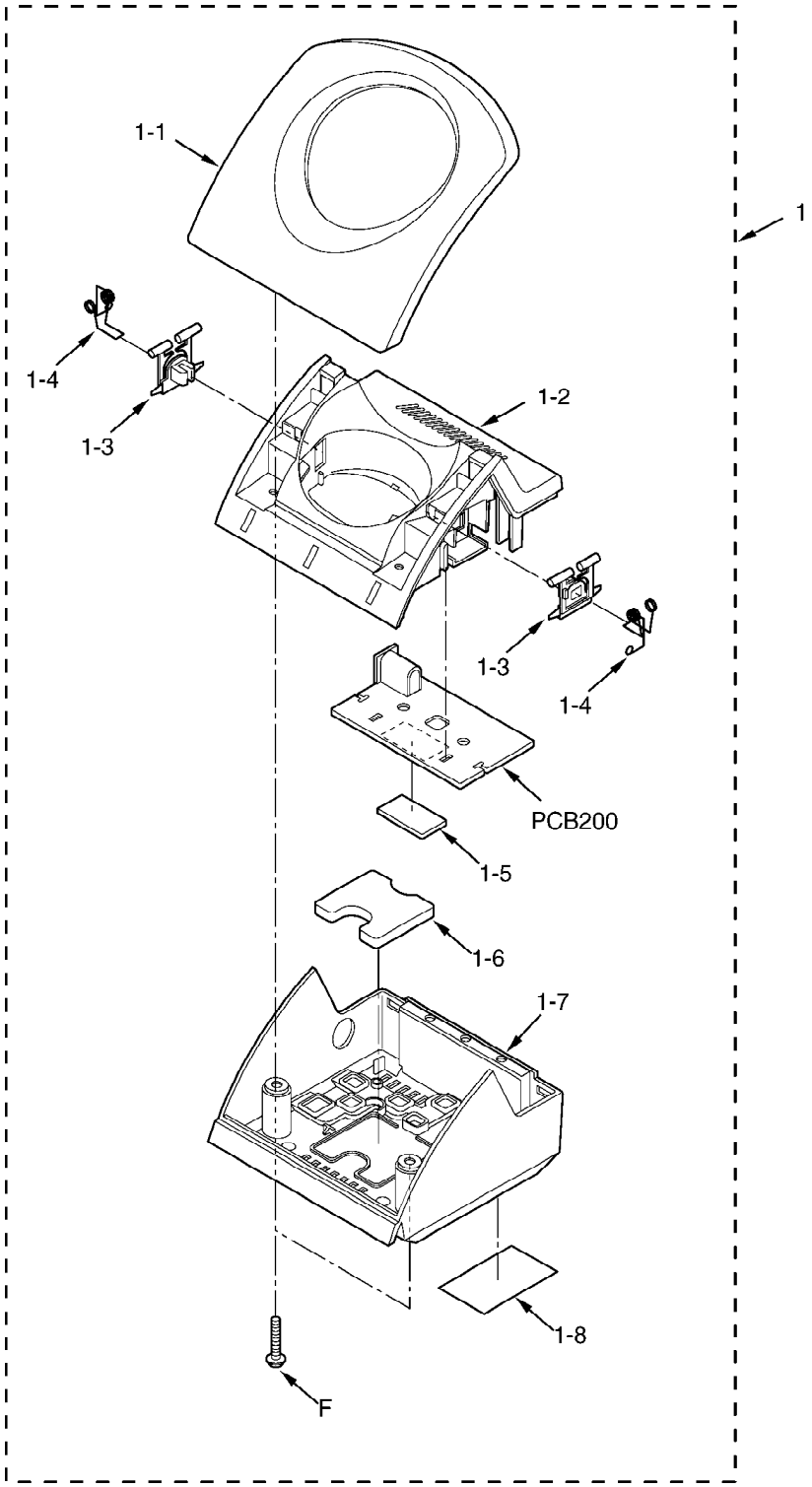
# 31. CABINET AND ELECTRICAL PARTS LOCATION (CORDLESS HANDSET)

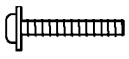



| Ref.No. | Part No. | Figure |
|---|---|---|
| C | XTB2+10G | ϕ2 × 10mm |
| D | XTB2+8G | ϕ2 × 8mm |
| E | XTB2+8G | ϕ2 × 8mm |

# 32. CABINET AND ELECTRICAL PARTS LOCATION

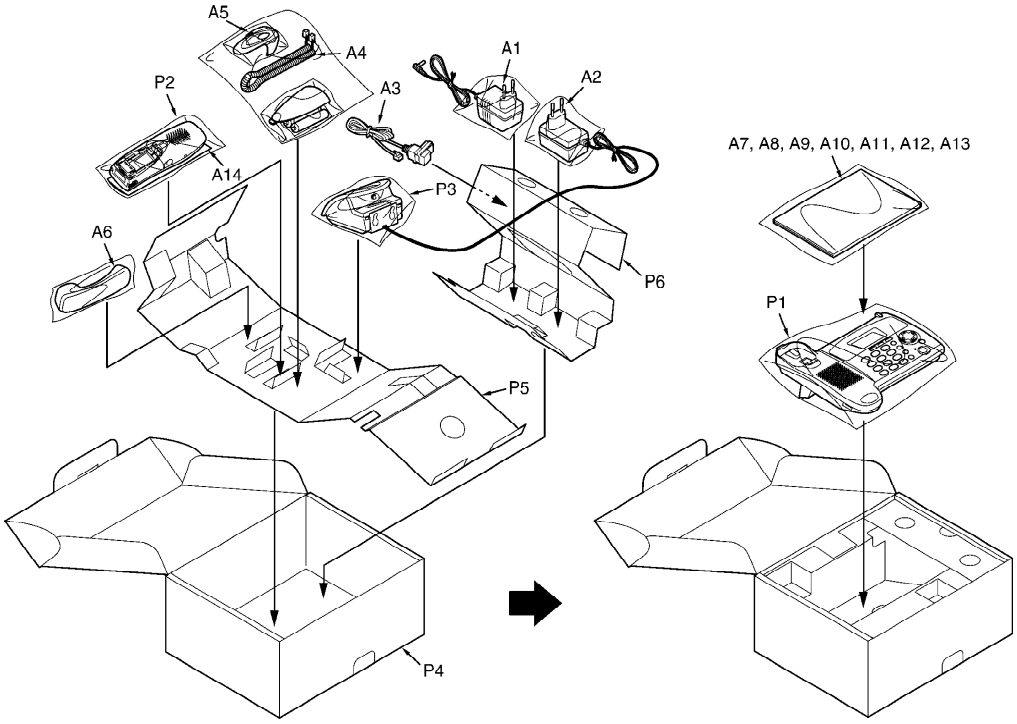
# (CHARGER UNIT)



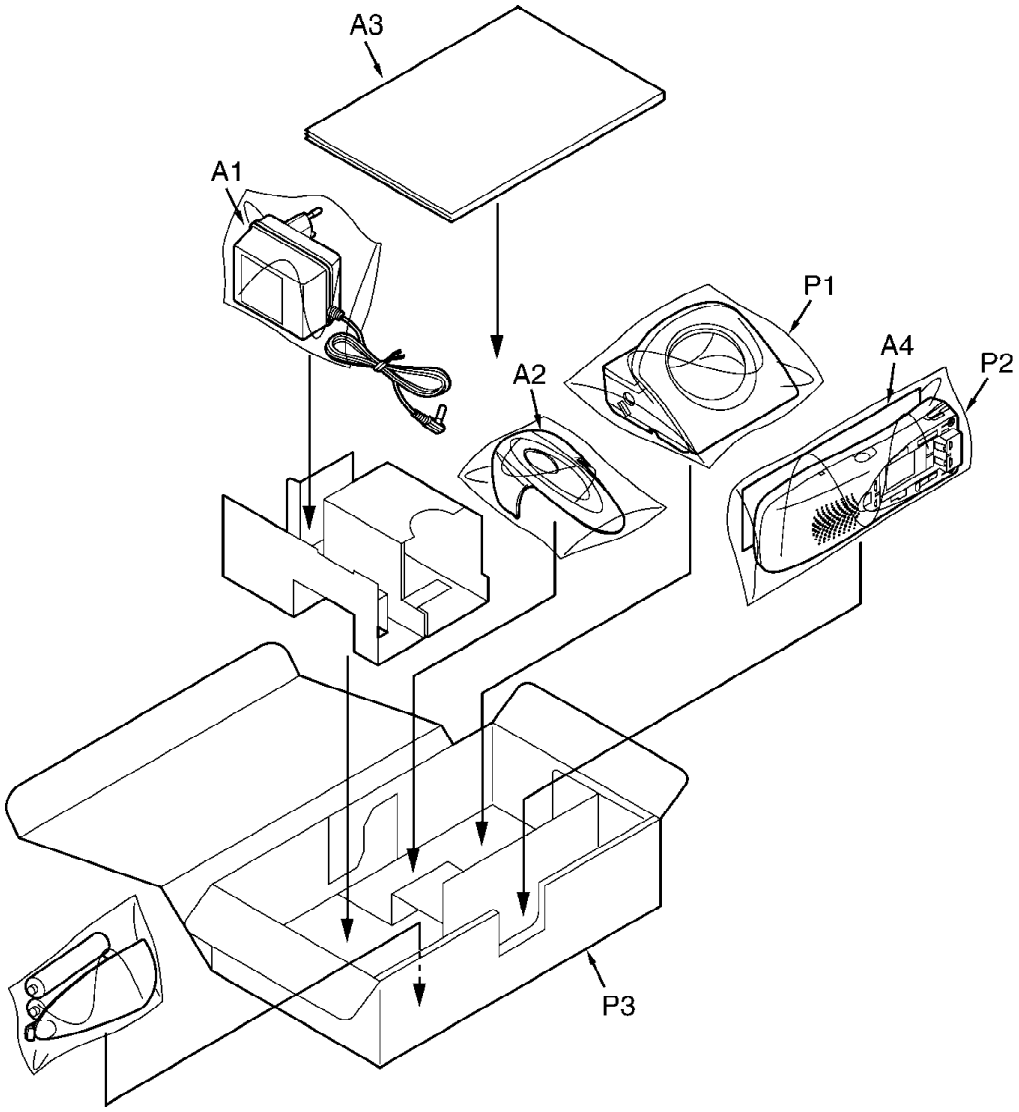

| Ref.No. | Part No. | Figure |
|---|---|---|
| F | XTW26+14P |  $\phi$2.6 × 14mm |

# 33. ACCESSORIES AND PACKING MATERIALS

## 33.1. KX-TCD530SLM

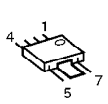
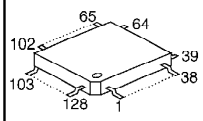
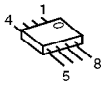
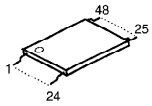
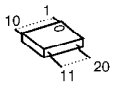
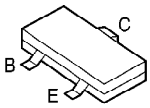
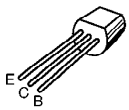
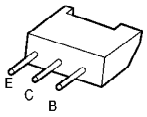
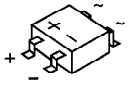
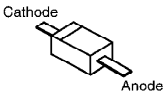
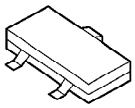
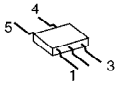



## 33.2. KX-TCA151EXM

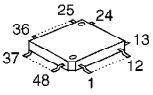
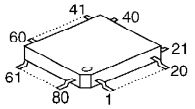
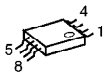
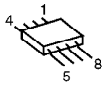
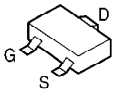
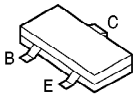
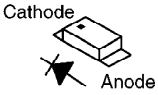
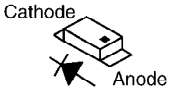
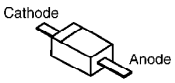



# 34. TERMINAL GUIDE OF THE ICs, TRANSISTORS AND DIODES

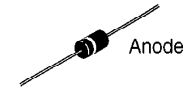
## 34.1. Base Unit

| | | | | |
|---|---|---|---|---|
|  C0DBZGE00007 |  C1CB00001613 |  PQWI2D530SLH<br>C1BB00000265 |  PQWI1D530SLH |  C0JBAF000223 |
|  B1ADGE000004<br>PQVTBF822T7 |  2SA1625 |  2SD1994A |  PQVDS1ZB60F1 |  B0JCME000035<br>MA1Z300<br>MA8047<br>B0JCDD000002<br>MA111<br>B0BC2R1A0006 |
|  B0DDCM000001 |  C0ABAA000055 | | | |

## 34.2. Cordless Handset

| | | | | |
|---|---|---|---|---|
|  C1BB00000783 |  C1CB00001598 |  C1BB00000265 |  PQWI1D530SLR<br>PQWI1D151EXR<br>C0JBAB000371 |  PQVTFDN335N |
|  PSVTDTC143X, PQVT143XK146,<br>UN9219J, B1ADGE000004,<br>B1ABCF000103 |  B3AEB0000029<br>LNJ308G8JRA |  PQVDBR1111C |  B0BC2R1A0006<br>MA8036H<br>MA8047<br>B0JCDD000002<br>MA2Z72000<br>B0JCME000035 | |

## 34.3. Charger Unit



B0JAME000085

# 35. REPLACEMENT PARTS LIST

## 1. RTL (Retention Time Limited)

**Note:**

**The marking (RTL) indicates that the Retention Time is limited for this item.**
**After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.**

**2. Important safety notice**
**Components identified by the ⚠ mark indicates special characteristics important for safety. When replacing any of these components, only use specified manufacture's parts.**

**3. The S mark means the part is one of some identical parts. For that reason, it may be different from the installed part.**

**4. ISO code (Example: ABS-94HB) of the remarks column shows quality of the material and a flame resisting grade about plastics.**

**5. RESISTORS & CAPACITORS**
**Unless otherwise specified;**
**All resistors are in ohms ( Ω ) K=1000 Ω , M=1000k Ω**
**All capacitors are in MICRO FARADS ( μ F)P= μ μ F**
***Type & Wattage of Resistor**

Type

| | | |
|---|---|---|
| ERC:Solid<br>ERDS:Carbon<br>ERJ:Chip | ERX:Metal Film<br>ERG:Metal Oxide<br>ER0:Metal Film | PQ4R:Chip<br>ERS:Fusible Resistor<br>ERF:Cement Resistor |

Wattage

| | | | | | |
|---|---|---|---|---|---|
| 10,16:1/8W | 14,25:1/4W | 12:1/2W | 1:1W | 2:2W | 3:3W |

*Type & Voltage Of Capacitor
Type

| | |
|---|---|
| ECFD:Semi-Conductor<br>ECQS:Styrol<br>ECUV,PQCUV,ECUE:Chip<br>ECQMS:Mica | ECCD,ECKD,ECBT,F1K,ECUV:Ceramic<br>ECQE,ECQV,ECQG:Polyester<br>ECEA,ECST,EEE:Electlytic<br>ECQP:Polypropylene |

Voltage

| ECQ Type | ECQG<br>ECQV Type | ECSZ Type | Others | |
|---|---|---|---|---|
| 1H:50V<br>2A:100V<br>2E:250V<br>2H:500V | 05:50V<br>1:100V<br>2:200V | 0F:3.15V<br>1A:10V<br>1V:35V<br>0J:6.3V | 0J :6.3V<br>1A :10V<br>1C :16V<br>1E,25:25V | 1V :35V<br>50,1H:50V<br>1J :16V<br>2A :100V |

## 35.1. Base Unit

### 35.1.1. Cabinet and Electrical Parts

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| 1 | PQGB10019Z1 | BADGE, PANASONIC | |
| 2 | PQGG10178Z1 | GRILLE, LCD | S |
| 3 | PQGG10177Z1 | GRILLE | PC-HB |
| 4 | PQGP10246Z | OPTIC CONDUCTIVE PARTS, LED LENS | |
| 5 | PQKE10070Z7 | GUIDE, H/S HOLDER | S |
| 6 | PQBH10041Z1 | PUSH BUTTON, HOOK | S |
| 7 | PQKM10612Z1 | CABINET BODY | ABS-HB |
| 8 | PQAS57P03Y | SPEAKER | |
| 9 | PQSX10249Z | KEYBOARD SWITCH, 12KEY | |
| 10 | PQBC10393Z1 | PUSH BUTTON, NAVI | S |
| 11 | PQSX10250Z | KEYBOARD SWITCH, NAVI KEY | |
| 12 | PQGP10245Z1 | PANEL, LCD | S |
| 13 | L5DCBFD00002 | LIQUID CRYSTAL DISPLAY | |
| 14 | PQHS10601Z | TAPE, CUT OFF LIGHT | |
| 15 | PQHX11209Z | SPACER, LCD COVER SHEET | |
| 16 | PQHR11010Z | SPACER, LCD PLATE | |
| 17 | PQHS10557Z | SPACER | |
| 18 | PQHR11009Z | GUIDE, LCD PLATE | |
| 19 | PQJE10114Z | LEAD WIRE, FFC | |
| 20 | PQSA10141Z | ANTENNA, MAIN | |
| 21 | PQSA10142Z | ANTENNA, SUB | |
| 22 | PQHE10150Z | SPACER, CUSHION URETHAN | |
| 23 | PQMG10025Z | RUBBER PARTS, MIC | |
| 24 | PQYF10580Z1 | CABINET COVER | ABS-HB |
| 25 | PQGT16481Z | NAME PLATE | |
| 26 | PQKL10059Z1 | STAND, WALL MOUNT ADAPTOR | S |

## 35.1.2. Main P.C.Board Parts

**Note:**
**(*1)When replacing IC3 or IC7, data need to be written to them with PQZZTCD530SL.**

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| PCB1 | PQWP1D530SLH | MAIN P.C.BOARD ASS'Y (RTL) | |
| | | (ICs) | |
| IC1 | C0DBZGE00007 | IC | S |
| IC2 | C1CB00001613 | IC | |
| IC3 | PQWI2D530SLH | IC (*1) | |
| IC7 | PQWI1D530SLH | IC (*1) | |
| IC10 | C1BB00000265 | IC | |
| IC12 | C0JBAF000223 | IC | |
| IC13 | C0JBAF000223 | IC | |
| IC14 | C0DBZGE00007 | IC | |
| IC15 | C0ABAA000055 | IC | |
| | | (TRANSISTORS) | |
| Q2 | B1ADGE000004 | TRANSISTOR(SI) | |
| Q3 | B1ADGE000004 | TRANSISTOR(SI) | |
| Q4 | 2SA1625 | TRANSISTOR(SI) | S |
| Q5 | PQVTBF822T7 | TRANSISTOR(SI) | |
| Q8 | 2SD1994A | TRANSISTOR(SI) | |
| | | (DIODES) | |
| D1 | B0JCME000035 | DIODE(SI) | |
| D3 | PQVDS1ZB60F1 | DIODE(SI) | S |
| D4 | MA1Z300 | DIODE(SI) | S |
| D7 | MA8047 | DIODE(SI) | |
| D8 | MA8047 | DIODE(SI) | |
| D9 | MA8047 | DIODE(SI) | |
| D11 | B0JCDD000002 | DIODE(SI) | |
| D200 | MA111 | DIODE(SI) | S |
| D201 | MA111 | DIODE(SI) | S |
| D202 | MA111 | DIODE(SI) | S |
| D203 | MA111 | DIODE(SI) | S |
| D204 | MA111 | DIODE(SI) | S |
| D205 | MA111 | DIODE(SI) | S |
| D208 | B0BC2R1A0006 | DIODE(SI) | |
| D209 | B0BC2R1A0006 | DIODE(SI) | |
| D213 | B0BC2R1A0006 | DIODE(SI) | |
| D215 | MA8047 | DIODE(SI) | S |
| D216 | MA8047 | DIODE(SI) | S |
| DA1 | B0DDCM000001 | DIODE(SI) | |
| | | (COILS) | |
| L1 | PQLQR4D4R7K | COIL | |
| L6 | PQLQXF330K | COIL | S |
| L7 | PQLQXF330K | COIL | S |
| C62 | PQLQR2M1N8S | COIL | S |
| C311 | PQLQR2M33NK | COIL | |
| C320 | PQLQR2M1N8S | COIL | S |
| C322 | PQLQR2M1N8S | COIL | S |
| | | (JACKS&CONNECTOR) | |
| CN1 | PQJJ1T023Y | JACK, MODULAR | S |
| CN2 | PQJJ1T022Z | JACK | |
| CN9 | K1MN24B00077 | CONNECTOR | |
| CN10 | PQJJ1T030Y | JACK, HANDSET | |
| | | (COMPONENTS PARTS) | |
| RA1 | PFXBV8V101JV | RESISTOR ARRAY | S |
| RA2 | PFXBV8V101JV | RESISTOR ARRAY | S |
| RA3 | PFXBV8V101JV | RESISTOR ARRAY | S |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| RA4 | PFXBV8V101JV | RESISTOR ARRAY | S |
| RA5 | PFXBV8V101JV | RESISTOR ARRAY | S |
| | | (RESISTORS) | |
| R10 | ERJ3GEYJ473 | 47K | |
| R12 | ERJ3GEYJ562 | 5.6K | |
| R13 | ERJ3GEYF562 | 56K | |
| R14 | ERJ3GEYF222 | 24K | |
| R15 | ERJ3GEYJ153 | 15K | |
| R16 | ERJ3GEYJ223 | 22K | |
| R17 | ERJ3GEYJ223 | 22K | |
| R22 | ERJ3GEYJ562 | 5.6K | |
| R23 | ERJ3GEYJ104 | 100K | |
| R24 | ERJ3GEYJ101 | 100 | |
| R25 | PQ4R18XJ272 | 5.6K | |
| R26 | ERJ3GEYJ103 | 10K | |
| R27 | ERJ3GEYJ562 | 5.6K | |
| R28 | ERJ3GEYJ222 | 2.2K | |
| R29 | ERJ3GEYJ101 | 100 | |
| R30 | ERJ3GEYJ101 | 100 | |
| R32 | ERJ3GEYJ101 | 100 | |
| R34 | PQ4R18XJ000 | 0 | S |
| R38 | ERJ3GEYJ104 | 100K | |
| R39 | ERJ3GEYJ560 | 56 | |
| R42 | ERJ3GEYJ273 | 27K | |
| R43 | ERJ3GEYJ822 | 8.2K | |
| R44 | ERJ3GEYJ182 | 1.8K | |
| R45 | ERJ12YJ120 | 12 | |
| R46 | ERJ12YJ270 | 27 | |
| R47 | ERJ3GEYJ104 | 100K | |
| R48 | ERJ3GEYJ473 | 47K | |
| R49 | ERJ3GEYJ560 | 56 | |
| R51 | ERJ3GEYJ103 | 10K | |
| R52 | ERJ3GEYJ391 | 390 | |
| R53 | ERJ3GEY0R00 | 0 | |
| R54 | ERJ3GEYJ182 | 1.8K | |
| R55 | ERJ3GEYJ102 | 1K | |
| R56 | ERJ3GEYJ103 | 10K | |
| R57 | ERJ3GEYJ103 | 10K | |
| R59 | ERJ3GEYJ103 | 10K | |
| R60 | ERJ3GEYJ220 | 22 | |
| R61 | ERJ3GEYJ220 | 22 | |
| R64 | ERJ3GEYJ102 | 1K | |
| R71 | ERJ3GEYJ104 | 100K | |
| R72 | ERJ3GEYJ474 | 470K | |
| R75 | ERJ3GEY0R00 | 0 | |
| R78 | ERJ3GEYJ103 | 10K | |
| R79 | ERJ3GEY0R00 | 0 | |
| R84 | ERJ3GEYJ102 | 1K | |
| R85 | ERJ3GEY0R00 | 0 | |
| R86 | ERJ3GEYJ103 | 10K | |
| R87 | ERJ3GEYJ103 | 10K | |
| R88 | ERJ3GEYJ103 | 10K | |
| R91 | ERJ3GEYJ181 | 180 | |
| R92 | ERJ3GEYJ181 | 180 | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| R102 | ERJ3GEYJ103 | 10K | |
| R106 | ERJ3GEYJ273 | 27K | |
| R107 | ERJ3GEYJ273 | 27K | |
| R108 | ERJ3GEYJ103 | 10K | |
| R110 | ERJ3GEYJ103 | 10K | |
| R111 | ERJ3GEYJ103 | 10K | |
| R112 | ERJ3GEYJ220 | 0 | |
| R113 | ERJ3GEYJ223 | 0 | |
| R220 | ERJ3GEYJ124 | 120K | |
| R221 | ERJ3GEYJ101 | 100 | |
| R223 | ERJ3GEYJ393 | 39K | |
| R230 | ERJ3GEYJ222 | 2.2K | |
| R231 | ERJ3GEYJ222 | 2.2K | |
| R251 | ERJ3GEYJ101 | 100 | |
| R259 | ERJ3GEYJ123 | 12K | |
| R260 | ERJ3GEYJ123 | 12K | |
| R261 | ERJ3GEYJ123 | 12K | |
| R262 | ERJ3GEYJ123 | 12K | |
| R263 | ERJ3GEYJ123 | 12K | |
| R264 | ERJ3GEYJ330 | 33 | |
| R265 | ERJ3GEYJ330 | 33 | |
| R266 | ERJ3GEYJ222 | 2.2K | |
| R271 | ERJ3GEYJ101 | 100 | |
| R272 | ERJ3GEYJ103 | 10K | |
| R276 | ERJ3GEYJ331 | 330 | |
| R278 | ERJ3GEYJ2R2 | 2.2 | |
| R279 | ERJ3GEYJ331 | 330 | |
| R280 | ERJ3GEYJ2R2 | 2.2 | |
| R281 | ERJ3GEY0R00 | 0 | |
| R282 | ERJ3GEYJ330 | 33 | |
| R283 | ERJ3GEYJ102 | 1K | |
| R284 | ERJ3GEYJ102 | 1K | |
| R285 | ERJ3GEYJ103 | 10K | |
| R286 | ERJ3GEYJ103 | 10K | |
| R287 | ERJ3GEYJ104 | 100K | |
| R288 | ERJ3GEYJ104 | 100K | |
| R289 | ERJ3GEYJ220 | 22 | |
| R290 | ERJ3GEYJ183 | 18K | |
| R291 | ERJ3GEYJ223 | 22K | |
| R292 | ERJ3GEY0R00 | 0 | |
| R294 | ERJ3GEYJ101 | 100 | |
| R295 | ERJ3GEYJ103 | 10K | |
| R296 | ERJ3GEY0R00 | 0 | |
| R297 | ERJ3GEY0R00 | 0 | |
| R299 | ERJ3GEYJ330 | 33 | |
| R300 | ERJ3GEY0R00 | 0 | |
| R301 | ERJ3GEY0R00 | 0 | |
| C323 | ERJ3GEY0R00 | 0 | |
| L8 | PQ4R10XJ000 | 0 | S |
| L9 | PQ4R10XJ000 | 0 | S |
| | | (CAPACITORS) | |
| C1 | ECUV1H100DCV | 10P | |
| C2 | ECA1CM221 | 100 | S |
| C3 | ECEA1AKA101 | 330 | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| C6 | ECUV1H100DCV | 10P | |
| C7 | ECEA0JKS101 | 10 | |
| C8 | ECUV1H040CCV | 4P | |
| C10 | ECUV1H100DCV | 10P | |
| C11 | ECEA0JKS101 | 10 | |
| C12 | ECQE2223KF | 0.022 | |
| C13 | ECQE2223KF | 0.022 | |
| C14 | ECKD2H681KB | 680P | S |
| C15 | ECKD2H681KB | 680P | S |
| C17 | ECUV1H561KBV | 560P | |
| C20 | ECUV1C104KBV | 0.1 | |
| C21 | ECUV1H100DCV | 10P | |
| C22 | ECUV1H561KBV | 560P | |
| C23 | ECUV1H100DCV | 10P | |
| C24 | ECUV1C104KBV | 0.1 | |
| C26 | ECUV1H100DCV | 10P | |
| C27 | ECUV1H100DCV | 10P | |
| C28 | ECUV1C224KBV | 0.22 | |
| C32 | ECUV1C223KBV | 0.022 | S |
| C33 | ECUV1A105KBV | 1 | |
| C34 | ECUV1C104KBV | 1 | |
| C36 | ECUV1H472KBV | 0.0047 | S |
| C37 | ECUV1C104KBV | 0.1 | |
| C38 | ECUV1C823KBV | 0.082 | |
| C39 | ECUV1C104KBV | 1 | |
| C40 | PQCUV1A225KB | 2.2 | |
| C41 | PQCUV1C224KB | 0.22 | |
| C42 | ECUV1H300JCV | 30P | |
| C43 | ECUV1H120JCV | 12P | |
| C44 | ECUV1C104KBV | 0.1 | |
| C45 | ECUV1C104KBV | 0.1 | |
| C46 | PQCUV1A105KB | 1 | |
| C47 | PQCUV1C224KB | 0.22 | |
| C48 | ECUV1C104KBV | 0.1 | |
| C49 | ECEA1HKS100 | 10 | S |
| C50 | PQCUV1E104MD | 0.1 | S |
| C53 | ECUV1C104KBV | 0.1 | |
| C55 | ECUV1H100DCV | 22P | |
| C57 | ECUV1H100DCV | 10P | |
| C58 | ECUV1H100DCV | 10P | |
| C59 | ECUV1H020CCV | 3P | |
| C63 | ECUV1H330JCV | 33P | |
| C64 | ECUV1H060DCV | 1P | |
| C65 | ECUV1C104KBV | 0.1 | |
| C68 | ECUV1A105KBV | 1 | |
| C71 | ECUV1H020CCV | 2P | |
| C72 | ECUV1H821JCV | 0.0056 | |
| C73 | ECUV1A475KB | 4.7 | |
| C76 | ECUV1H103KBV | 0.01 | |
| C82 | ECUV1H020CCV | 2P | |
| C84 | ECUV1H020CCV | 2P | |
| C100 | ECUV1H100DCV | 10P | |
| C101 | ECUV1H682KBV | 0.0068 | S |
| C102 | ECUV1H682KBV | 0.0068 | S |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| C104 | ECUV1H060DCV | 6P | S |
| C105 | ECUV1H100DCV | 10P | |
| C108 | PQCUV1A225KB | 2.2 | |
| C109 | PQCUV1A105KB | 1 | |
| C110 | ECUV1H103KBV | 0.01 | |
| C114 | ECUV1H100DCV | 2P | |
| C119 | ECUV1C683KBV | 2.2 | |
| C210 | ECUV1C104KBV | 0.1 | |
| C211 | ECUV1C104KBV | 0.1 | |
| C212 | ECEA1AKA101 | 100 | |
| C220 | ECUV1H100DCV | 10P | |
| C221 | ECUV1C104KBV | 0.1 | |
| C223 | ECJ1VB1H221K | 220P | |
| C224 | ECUV1H220JCV | 22P | |
| C225 | ECUV1C104KBV | 0.1 | |
| C226 | ECUV1H100DCV | 10P | |
| C227 | ECUV1C105ZFV | 1 | |
| C230 | ECEA1CK101 | 100 | S |
| C231 | ECUV1H100DCV | 10P | |
| C232 | ECEA1CK101 | 100 | S |
| C233 | ECUV1H100DCV | 10P | |
| C240 | ECUV1C104KBV | 0.1 | |
| C241 | ECUV1C104KBV | 0.1 | |
| C254 | ECUV1C683KBV | 0.068 | |
| C255 | ECUV1H331JCV | 330P | S |
| C258 | ECUV1C104KBV | 0.1 | |
| C266 | ECUV1H100DCV | 10P | |
| C267 | ECUV1H100DCV | 10P | |
| C268 | ECUV1C104KBV | 0.1 | |
| C269 | ECUV1H331JCV | 330P | S |
| C270 | ECUV1C104KBV | 0.1 | |
| C271 | ECEA1AKA221 | 220 | |
| C272 | ECKD2H681KB | 680P | S |
| C273 | ECUV1H100DCV | 10P | |
| C274 | ECUV1H100DCV | 10P | |
| C275 | ECUV1H100DCV | 10P | |
| C276 | ECUV1A105KBV | 1 | |
| C282 | ECUV1C105ZFV | 1 | |
| C283 | ECUV1C105ZFV | 1 | |
| C285 | ECUV1H121JCV | 120P | |
| C286 | ECUV1H121JCV | 120P | |
| C287 | ECUV1H821KBV | 820P | |
| C288 | ECUV1H821KBV | 820P | |
| C289 | ECUV1H821KBV | 820P | |
| C290 | ECUV1H821KBV | 820P | |
| C291 | ECUV1H821KBV | 820P | |
| C292 | ECUV1H821KBV | 820P | |
| C293 | ECUV1H821KBV | 820P | |
| C294 | ECUV1H100DCV | 10P | |
| C295 | ECUV1C104KBV | 0.1 | |
| C296 | ECUV1C104KBV | 0.1 | |
| C297 | ECUV1C104KBV | 0.1 | |
| C298 | ECUV1H100DCV | 10P | |
| C299 | ECST0JY106 | 10 | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| C300 | ECUV1H681JCV | 680P | S |
| C301 | ECUV1H101JCV | 100P | |
| C302 | ECUV1H101JCV | 100P | |
| C303 | ECUV1H101JCV | 100P | |
| C304 | ECUV1H100DCV | 10P | |
| C305 | ECUV1C104KBV | 0.1 | |
| C306 | ECUV1H471JCV | 470P | S |
| C308 | ECUV1H471JCV | 470P | S |
| C309 | ECUV1H100DCV | 10P | |
| C310 | ECUV1H100DCV | 10P | |
| C312 | ECUV1H010CCV | 1P | |
| C313 | ECUV1H100DCV | 10P | |
| C314 | ECUV1H100DCV | 10P | |
| C315 | ECUV1H100DCV | 10P | |
| C316 | ECUV1H100DCV | 10P | |
| C317 | ECUV1H100DCV | 10P | |
| C325 | PQCUV1H100DC | 10P | |
| | | (OTHERS) | |
| MIC1 | L0CBAB000052 | MICROPHONE | |
| RFM1 | J3FKK0000003 | RF UNIT | |
| SA1 | PQVDDSS301L | VARISTOR (SURGE ABRSORBER) | S |
| X1 | H0D103500003 | CRYSTAL OSCILLATOR | |

## 35.1.3. Operational P.C. Board Parts

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| PCB2 | PQWP2D535EH | OPERATION P.C. BOARD ASS'Y (RTL) | |
| | | (TRANSISTORS) | |
| Q501 | PQVTDTC143XU | TRANSISTOR(SI) | S |
| Q503 | PQVTDTC143XU | TRANSISTOR(SI) | S |
| Q504 | PQVTDTC143XU | TRANSISTOR(SI) | S |
| | | (DIODES) | |
| LED501 | PQVDBR1111C | DIODE(SI) | S |
| LED503 | LNJ408K84RAK | DIODE(SI) | |
| LED504 | LNJ408K84RAK | DIODE(SI) | |
| LED505 | LNJ308G8JRA | DIODE(SI) | |
| | | (CONNECTORS) | |
| CN501 | K1MN24B00072 | CONNECTOR | |
| CN502 | K1MN22B00047 | CONNECTOR | |
| | | (RESISTORS) | |
| R501 | PQ4R10XJ221 | 220 | S |
| R503 | PQ4R10XJ151 | 150 | S |
| R504 | PQ4R10XJ151 | 150 | S |
| R505 | PQ4R10XJ121 | 120 | S |
| R507 | ERJ3GEYJ103 | 10K | |
| | | (CAPACITORS) | |
| C501 | ECUV1C474KBV | 0.47 | |
| C502 | ECUV1C474KBV | 0.47 | |
| C503 | ECUV1C474KBV | 0.47 | |
| C504 | ECUV1C474KBV | 0.47 | |
| C505 | ECUV1C474KBV | 0.47 | |
| C506 | ECUV1A105KBV | 1 | |
| C507 | ECUV1A105KBV | 1 | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| C508 | ECUV1A105KBV | 1 | |
| C509 | ECUV1A105KBV | 1 | |
| C510 | ECUV1A105KBV | 1 | |
| | | (OTHERS) | |
| SW531 | PQSH2B105Z | PUSH SWITCH | S |

# 35.2. Cordless Handset

## 35.2.1. Cabinet and Electrical Parts

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| 101 | PQGG10159Z1 | GRILLE, LCD | ABS-HB |
| 102 | PQGP10230Z1 | PANEL, KEY | ABS-HB |
| 103 | PQGP10231Z | PANEL, LCD | PC-HB |
| 104 | PQHS10567Z | TAPE, DOUBLE SIDE (LCD) | |
| 105 | PQHS10568Z | TAPE, DOUBLE SIDE (KEY) | |
| 106 | PQKM10595Z1 | CABINET BODY | ABS-HB |
| 107 | PQGP10232Z | OPTIC CONDUCTIVE PARTS, LED LENS | ABS-HB |
| 108 | PQHE10141Z | SPACER, LCD SPONGE | |
| 109 | PQBX10369Z1 | PUSH BUTTON, TALK | ABS-HB |
| 110 | PQBC10380Z1 | PUSH BUTTON, SP PHONE | ABS-HB |
| 111 | PQSX10226Z | KEYBOARD SWITCH | |
| 112 | PQHS10467Z | COVER, SP NET | |
| 113 | L0AD02A00015 | SPEAKER | |
| 114 | PQBC10381Z1 | PUSH BUTTON, CURSOR | ABS-HB |
| 115 | PQSA10134Z | ANTENNA | |
| 116 | PQHX11202Z | INSULATOR, SHEET | |
| 117 | PQJT10204Z | TERMINAL (L) | |
| 118 | PQJT10205Z | TERMINAL (R) | |
| 119 | PQHR10964Z | GUIDE, SPEAKER | ABS-HB |
| 120 | L0AD02A00010 | SPEAKER | |
| 121 | PQHG10666Z | SPACER, SP RUBBER SHEET | |
| 122 | PQHS10457Z | COVER, SP NET | |
| 123 | PQJC10056Z | BATTERY TERMINAL C | |
| 124 | PQJC10057Z | BATTERY TERMINAL A | |
| 125 | PQJC10058Z | BATTERY TERMINAL B | |
| 126 | PQKE10357Z1 | COVER, EARPHONE | |
| 127 | PQKF10583Y6 | CABINET COVER | ABS-HB |
| 128 | PQGT16199Z | NAME PLATE | |
| 129 | PQHX11199Z | PLASTIC PARTS, BATTERY COVER SHEET | |
| 130 | PQHS10561Y | SPACER, BATTERY COVER | |
| 131 | PQKK10134Y6 | LID, BATTERY CVOER | ABS-HB |

## 35.2.2. Main P.C.Board Parts

**Note:**
**(*2)When replacing IC10, data need to be written to them with PQZZTCD530SL.**

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| PCB100 | PQWP1D530SLR | MAIN P.C.BOARD ASS'Y (RTL) (for KX-TCD530SLM) | |
| PCB100 | PQWP1D151EXR | MAIN P.C.BOARD ASS'Y (RTL) (for KX-TCA151EXM) | |
| | | (ICs) | |
| IC1 | C1CB00001598 | IC | |
| IC2 | C1BB00000265 | IC | |
| IC4 | C1BB00000783 | IC | |
| IC5 | C0JBAB000371 | IC | |
| IC10 | PQWI1D530SLR | IC (for KX-TCD530SLM) (*2) | |
| IC10 | PQWI1D151EXR | IC (for KX-TCA151EXM) (*2) | |
| | | (TRANSISTORS) | |
| Q1 | PQVTFDN335N | TRANSISTOR(SI) | S |
| Q2 | B1ADGE000004 | TRANSISTOR(SI) | |
| Q3 | B1ADGE000004 | TRANSISTOR(SI) | |
| Q4 | B1ADGE000004 | TRANSISTOR(SI) | |
| Q5 | B1ABCF000103 | TRANSISTOR(SI) | |
| Q7 | PQVT143XK146 | TRANSISTOR(SI) | S |
| Q8 | B1ADGE000004 | TRANSISTOR(SI) | |
| Q9 | UN9219J | TRANSISTOR(SI) | |
| Q10 | PSVTDTC143X | TRANSISTOR(SI) | S |
| Q11 | PSVTDTC143X | TRANSISTOR(SI) | S |
| | | (DIODES) | |
| D1 | B0JCME000035 | DIODE(SI) | |
| D3 | MA8036H | DIODE(SI) | |
| D4 | MA8047 | DIODE(SI) | |
| D5 | MA8047 | DIODE(SI) | |
| D6 | B0BC2R1A0006 | DIODE(SI) | |
| D7 | MA2Z72000 | DIODE(SI) | |
| D8 | B0JCDD000002 | DIODE(SI) | |
| LED1 | B3AEB0000029 | LED | |
| LED2 | B3AEB0000029 | LED | |
| LED4 | LNJ308G8JRA | LED | |
| LED5 | LNJ308G8JRA | LED | |
| LED6 | LNJ308G8JRA | LED | |
| LED7 | LNJ308G8JRA | LED | |
| LED8 | LNJ308G8JRA | LED | |
| LED9 | PQVDBR1111C | LED | S |
| LED10 | PQVDBR1111C | LED | S |
| | | (COILS) | |
| F1 | PQLQR2M5N6K | COIL | S |
| L1 | G1A470L00001 | COIL | |
| L2 | PQLQR4D4R7K | COIL | |
| L4 | G1C100MA0072 | COIL | |
| L5 | G1C100MA0072 | COIL | |
| | | (CRYSTAL OSCILLATORS) | |
| X1 | H0D103500002 | CRYSTAL OSCILLATOR | |
| X2 | H2D600400004 | CRYSTAL OSCILLATOR | |
| | | (RESISTORS) | |
| R1 | ERJ6RSJR10V | 0.1 | |
| R2 | ERJ3EKF6802 | 68K | S |
| R3 | ERJ3EKF1803 | 180K | S |
| R4 | ERJ3GEYJ153 | 15K | |
| R5 | ERJ3GEYJ471 | 470 | |
| R6 | ERJ3GEYJ103 | 10K | |
| R7 | ERJ3GEYJ224 | 220K | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| R9 | ERJ3GEYJ562 | 5.6K | |
| R10 | ERJ3GEYF203 | 20K | |
| R11 | ERJ3GEYF103 | 10K | |
| R12 | ERJ3GEYJ393 | 39K | |
| R14 | ERJ3GEYJ330 | 33 | |
| R15 | ERJ3GEYJ100 | 10 | |
| R17 | ERJ3GEYJ470 | 47 | |
| R18 | ERJ3GEYJ121 | 120 | |
| R20 | ERJ3GEYJ102 | 1K | |
| R21 | ERJ3GEYJ102 | 1K | |
| R24 | ERJ3GEYJ474 | 470K | |
| R25 | ERJ3GEYJ331 | 330 | |
| R26 | ERJ3GEYJ101 | 100 | |
| R29 | ERJ3GEYJ222 | 2.2K | |
| R34 | ERJ3GEYJ184 | 180K | |
| R35 | ERJ3GEYJ273 | 27K | |
| R36 | ERJ3GEYJ683 | 68K | |
| R37 | ERJ3GEYJ330 | 33 | |
| R38 | ERJ3GEYJ330 | 33 | |
| R39 | ERJ3GEYJ103 | 10K | |
| R40 | ERJ3GEYJ223 | 22K | |
| R43 | ERJ6RQJR22 | 0.22 | |
| R46 | ERJ3GEYJ562 | 5.6K | |
| R47 | ERJ3GEYJ562 | 5.6K | |
| R48 | ERJ3GEYJ330 | 33 | |
| R50 | ERJ3GEYJ101 | 100 | |
| R51 | ERJ3GEYJ105 | 1M | |
| R52 | ERJ3GEYJ183 | 18K | |
| R55 | ERJ3GEYJ103 | 10K | |
| R57 | ERJ3GEYJ680 | 68 | |
| R58 | ERJ3GEYJ2R2 | 2.2 | |
| R59 | ERJ3GEYJ560 | 56 | |
| R60 | ERJ3GEYJ102 | 1K | |
| R61 | ERJ3GEYJ103 | 10K | |
| R62 | ERJ3GEYJ103 | 10K | |
| R63 | ERJ3GEYJ103 | 10K | |
| R64 | ERJ3GEYJ103 | 10K | |
| R66 | ERJ3GEYJ103 | 10K | |
| R71 | ERJ3GEYJ104 | 100K | |
| R72 | ERJ3GEYJ102 | 1K | |
| R73 | ERJ3GEYJ564 | 560K | |
| R74 | ERJ3GEY0R00 | 0 | |
| R75 | ERJ3GEY0R00 | 0 | |
| R76 | ERJ3GEYJ223 | 22K | |
| R77 | ERJ3GEYJ681 | 680 | |
| R80 | ERJ3GEYJ100 | 10 | |
| R81 | ERJ3GEY0R00 | 0 | |
| R90 | ERJ3GEYJ103 | 10K | |
| | | (CAPACITORS) | |
| C1 | EEE0JA331P | 330 | |
| C2 | ECST0JY106 | 10 | |
| C3 | ECUV1C104KBV | 0.1 | |
| C4 | ECUV1H100DCV | 10P | |
| C5 | ECST0JY106 | 10 | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| C7 | ECUV1H100DCV | 10P | |
| C8 | ECUV1A224KBV | 0.22 | |
| C9 | ECUV1C683KBV | 0.068 | |
| C10 | ECUV1C104KBV | 0.1 | |
| C12 | ECUV1A105KBV | 1 | |
| C13 | ECUV1C104KBV | 0.1 | |
| C14 | ECUV1C104KBV | 0.1 | |
| C15 | ECUV1C105ZFV | 1 | |
| C16 | ECUV1C104KBV | 0.1 | |
| C17 | ECUV1H100DCV | 10P | |
| C18 | ECUV1H102KBV | 0.001 | |
| C19 | ECUV1C104KBV | 0.1 | |
| C20 | ECUV1C104KBV | 0.1 | |
| C21 | ECUV1C104KBV | 0.1 | |
| C22 | ECUV1C104KBV | 0.1 | |
| C23 | ECUV1C104KBV | 0.1 | |
| C24 | ECUV1C104KBV | 0.1 | |
| C27 | ECUV1A105KBV | 1 | S |
| C28 | ECUV1A105KBV | 1 | S |
| C29 | ECUV1A105KBV | 1 | S |
| C30 | ECUV1A105KBV | 1 | S |
| C31 | ECUV1C474KBV | 0.47 | |
| C32 | ECUV1C474KBV | 0.47 | |
| C33 | ECUV1C474KBV | 0.47 | |
| C34 | ECUV1C474KBV | 0.47 | |
| C35 | ECUV1C474KBV | 0.47 | |
| C37 | ECUV1C683KBV | 0.068 | |
| C38 | ECUV1H471JCV | 470P | S |
| C39 | ECUV1A105ZFV | 1 | |
| C40 | ECST0JY106 | 10 | |
| C42 | ECUV1A106ZF | 10 | S |
| C44 | ECUV1A105ZFV | 1 | |
| C45 | ECUV1C104KBV | 0.1 | |
| C46 | ECUV1C104KBV | 0.1 | |
| C47 | ECUV1C104KBV | 0.1 | |
| C48 | ECUV1C473KBV | 0.047 | |
| C49 | ECUV1C104KBV | 0.1 | |
| C52 | ECUV1C104KBV | 0.1 | |
| C54 | ECUV1H330JCV | 33P | |
| C55 | ECUV1C104KBV | 0.1 | |
| C56 | ECUV1H680JCV | 68P | |
| C57 | EEE0JA331P | 330 | |
| C58 | ECUV1C104KBV | 0.1 | |
| C59 | ECUV1A105ZFV | 1 | |
| C60 | ECUV1A475KB | 4.7 | |
| C61 | ECUV1A105KBV | 1 | |
| C62 | ECUV1A475KB | 4.7 | |
| C63 | ECUV1H562KBV | 0.0056 | |
| C64 | ECUV1H020CCV | 2P | |
| C65 | ECUV1H020CCV | 2P | |
| C66 | ECUV1H020CCV | 2P | |
| C67 | F1G1H100A420 | 10P | |
| C68 | ECUV1C683KBV | 0.068 | |
| C69 | ECUV1H020CCV | 2P | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| C70 | ECUV1C104KBV | 0.1 | |
| C73 | ECUV1C104KBV | 0.1 | |
| C74 | ECUV1C104KBV | 0.1 | |
| C75 | ECUV1H100DCV | 10P | |
| C77 | ECUV1H100DCV | 10P | |
| C80 | PQCUV1A225ZF | 2.2 | |
| C81 | ECUV1H020CCV | 2P | |
| C82 | ECUV1H020CCV | 2P | |
| C86 | ECUV1C105ZFV | 1 | |
| C87 | ECUV1H100DCV | 10P | |
| C89 | ECUV1H100DCV | 10P | |
| C90 | ECUV1H100DCV | 10P | |
| C91 | ECUV1H100DCV | 10P | |
| C92 | ECUV1H100DCV | 10P | |
| C93 | ECUV1H101JCV | 100P | |
| C94 | ECUV1H101JCV | 100P | |
| C100 | ECUV1A105ZFV | 1 | |
| C101 | ECUV1C104KBV | 0.1 | |
| | | (OTHERS) | |
| MIC | L0CBAB000052 | MICROPHONE | |
| IC3 | J3FKK0000003 | RF UNIT | |
| CN4 | K2HD103D0001 | JACK | |
| SW1 | K0C115A00003 | SEESAW SWITCH | |

# 35.3. Charger Unit

## 35.3.1. Cabinet and Electrical Parts

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| 1 | PQLV30018ZM1 | HANDSET CHARGER | |
| 1-1 | PQGG10155Y5 | GRILLE | ABS-HB |
| 1-2 | PQKM10591Y3 | CABINET BODY | PS-HB |
| 1-3 | PQKE10356Z1 | GUIDE, CHARGE TERMINAL CASE | POM-HB |
| 1-4 | PQJT10206Z | CHARGE TERMINAL | |
| 1-5 | PQHX10991Z | CUSHION, URETHANE FORM | |
| 1-6 | PQMH10426Z | WEIGHT | |
| 1-7 | PQYF10563Z3 | CABINET COVER | PS-HB |
| 1-8 | PQGT15735W | NAME PLATE (made in Malaysia) | |
| 1-8 | PQGT15735X | NAME PLATE (made in Thailand) | |

## 35.3.2. Main P.C.Board Parts

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| PCB200 | PQWPA142ESCH | MAIN P.C.BOARD ASS'Y (RTL) | |
| | | (DIODE) | |
| D1 | B0JAME000085 | DIODE(SI) | |
| | | (JACK) | |
| J1 | PQJJ1B4Y | JACK | S |
| | | (RESISTORS) | |
| R1 | ERJ1WYJ220 | 22 | |
| R2 | ERJ1WYJ270 | 27 | |

## 35.4. Accessories and Packing Materials

### 35.4.1. KX-TCD530SLM

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| A1 | PQLV19CEZ | AC ADAPTOR | ⚠ |
| A2 | PQLV200CEZ | AC ADAPTOR | ⚠ |
| A3 | PFJA02B001Z | CORD, TELEPHONE | |
| A4 | PQJA212K | CORD, TELEPHONE | |
| A5 | PQKE10355Z1 | HANGER, BELT CLIP | PC+ABS-HB |
| A6 | PQJXH0128Y | HANDSET | |
| A7 | PQQX13808Z | INSTRUCTION BOOK (for French) | |
| A8 | PQQX13809Z | INSTRUCTION BOOK (for Italian) | |
| A9 | PQQX13883Z | INSTRUCTION BOOK (for German) | |
| A10 | PQQW13024Z | QUICK GUIDE (for French) | |
| A11 | PQQW13025Z | QUICK GUIDE (for Italian) | |
| A12 | PQQW13103Z | QUICK GUIDE (for German) | |
| A13 | PQQW13026Z | LEAFLET | |
| A14 | PQQW12846W | LEAFLET, RECHARGE | |
| P1 | PQPP170Y | PROTECTION COVER (for Base Unit) | |
| P2 | PFPH1050Z | PROTECTION COVER (for Cordless Handset) | |
| P3 | PQPP10086Z | PROTECTION COVER (for Charger Unit) | |
| P4 | PQPK14143Z | GIFT BOX | |
| P5 | PQPD10577Z | CUSHION | |
| P6 | PQPD10573Z | CUSHION | |

### 35.4.2. KX-TCA151EXM

| Ref. No. | Part No. | Part Name & Description | Remarks |
|---|---|---|---|
| A1 | PQLV200CEZ | AC ADAPTOR | ⚠ |
| A2 | PQKE10355Z1 | HANGER, BELT CLIP | PC+ABS-HB |
| A3 | PQQX13713Z | INSTRUCTION BOOK | |
| A4 | PQQW12846W | LEAFLET, RECHARGE | |
| P1 | PQPP10086Z | PROTECTION COVER (for Charger Unit) | |
| P2 | PQPP10084Z | PROTECTION COVER (for Cordless Handset) | |
| P3 | PQPK14170Z | GIFT BOX | |

## 35.5. Fixtures and Tools

| Part No. | Part Name & Description | Remarks |
|---|---|---|
| PQZZ1CD505E | JIG CABLE | |
| PQZZTCD530SL | BATCH FILE | |

**Note:**
**See CHECK PROCEDURE (BASE UNIT) (), and CHECK PROCEDURE (CORDLESS HANDSET) ().**

# 36. FOR SCHEMATIC DIAGRAM

## 36.1. Base Unit (SCHEMATIC DIAGRAM (BASE UNIT))

**Notes:**

1. **DC voltage measurements are taken with voltmeter from the negative voltage line.**

> Important Safety Notice:
> Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only the manufacturer's specified parts.

2. **This schematic diagram may be modified at any time with the development of new technology.**

## 36.2. Cordless Handset (SCHEMATIC DIAGRAM (CORDLESS HANDSET))

**Notes:**

1. **DC voltage measurements are taken with an oscilloscope or a tester with a ground.**
2. **The schematic diagrams and circuit board may be modified at any time with the development of new technology.**

## 36.3. Memo

# 37. SCHEMATIC DIAGRAM (BASE UNIT)

## 37.1. Main

## 37.2. Operation

## 37.3. Memo

# 38. SCHEMATIC DIAGRAM (CORDLESS HANDSET)

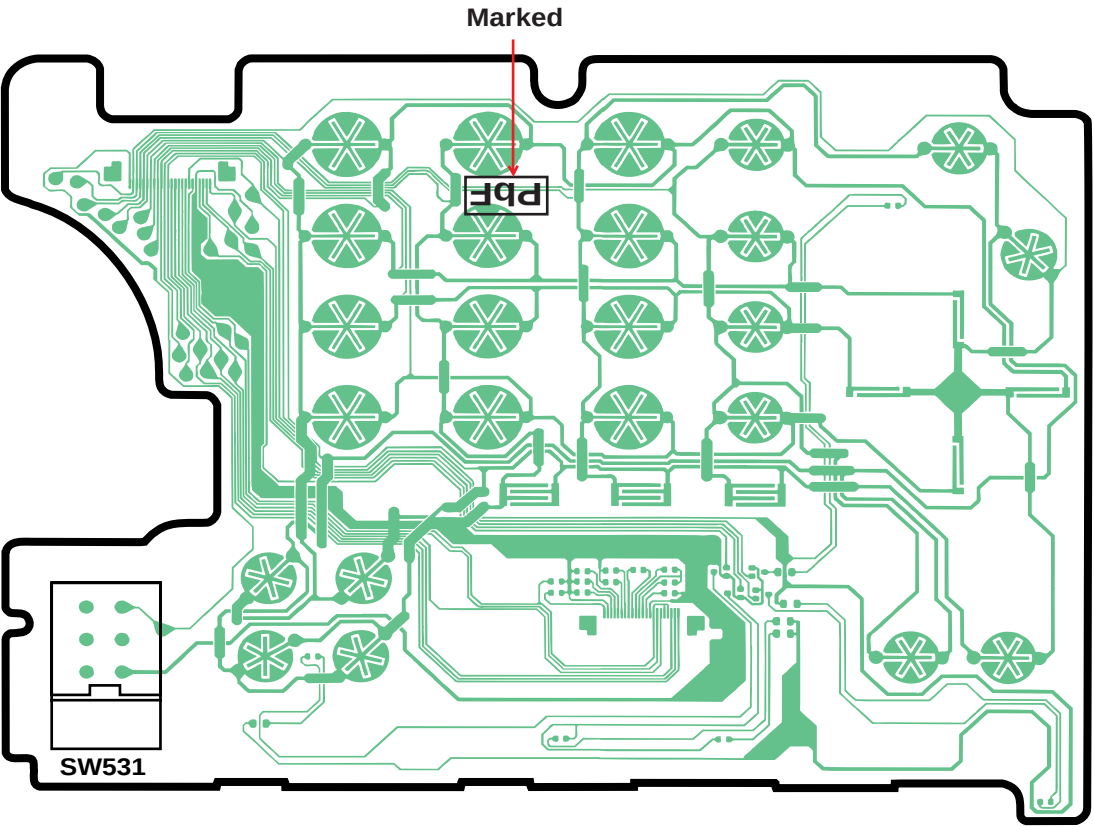
# 39. SCHEMATIC DIAGRAM (CHARGER UNIT)

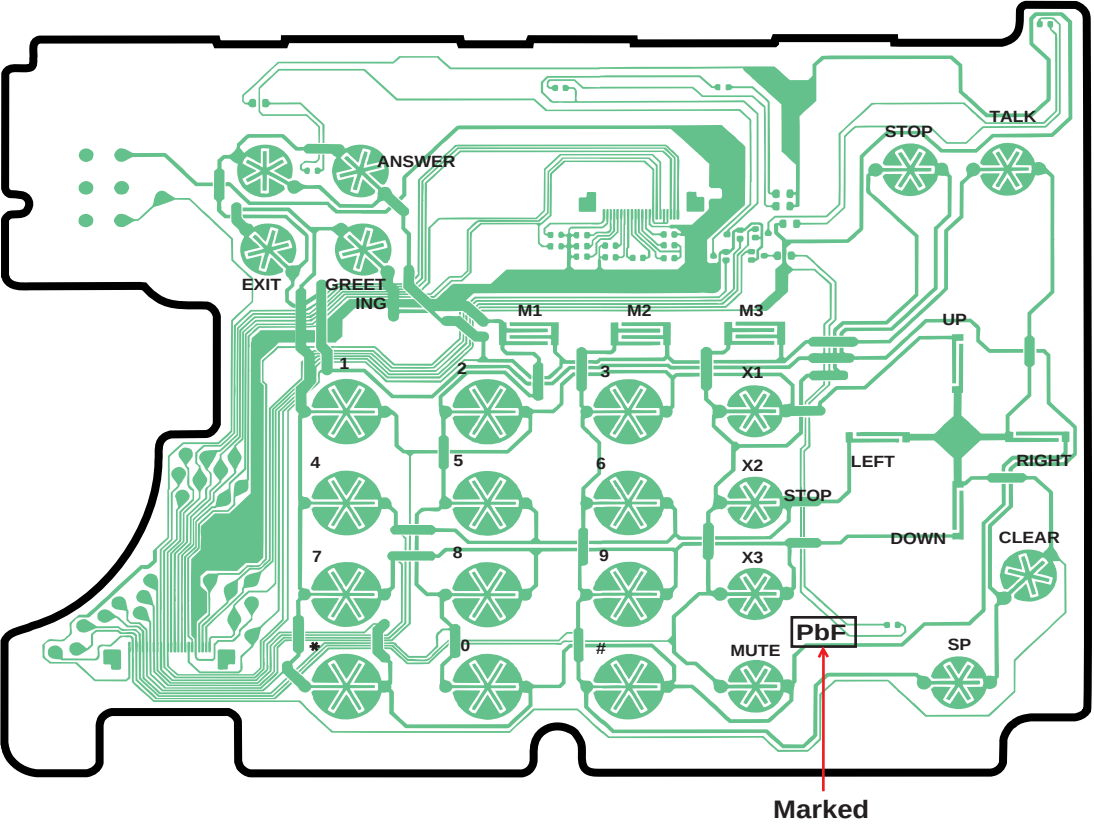
# 40. CIRCUIT BOARD (BASE UNIT)

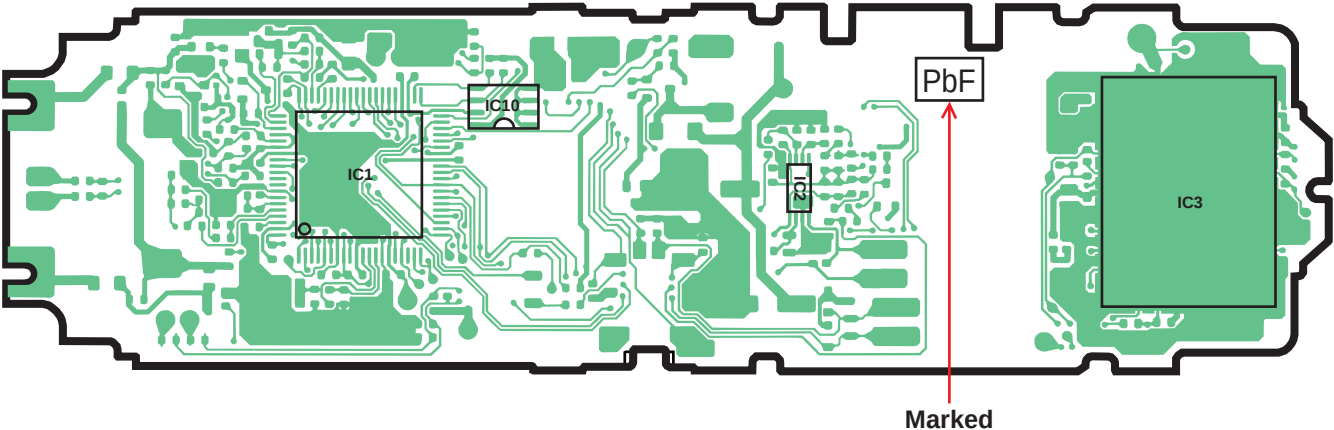
## 40.1. Main

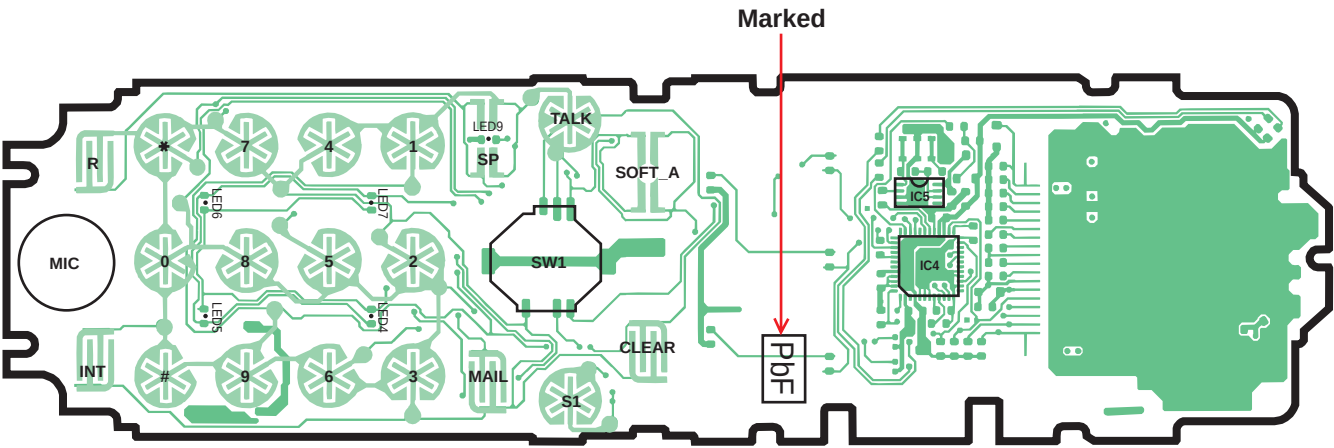
### 40.1.1. Component View

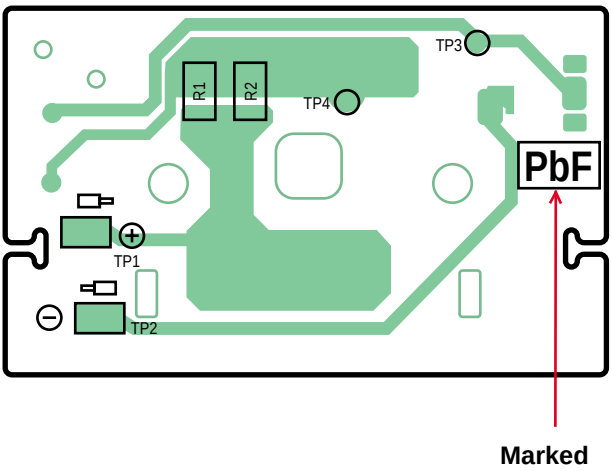
40.1.2. Flow Solder Side View
40.2. Operation
40.2.1. Component View
40.2.2. Flow Solder Side View
41. CIRCUIT BOARD (CORDLESS HANDSET)
41.1. Component View
41.2. Flow Solder Side View
42. CIRCUIT BOARD (CHARGER UNIT)
42.1. Component View
42.2. Flow Solder Side View


Marked
PbF
SW531

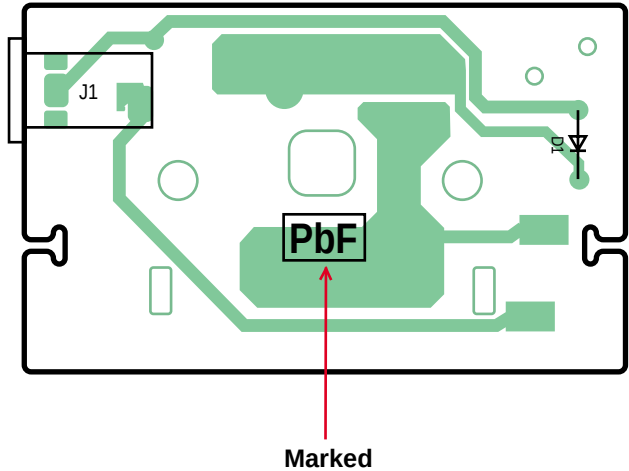

ANSWER
EXIT
GREET
ING
M1
M2
M3
1
2
3
X1
4
5
6
X2
STOP
7
8
9
X3
*
0
#
MUTE
PbF
TALK
STOP
UP
LEFT
RIGHT
DOWN
CLEAR
SP
Marked


PbF
IC1
IC10
IC2
IC3
Marked

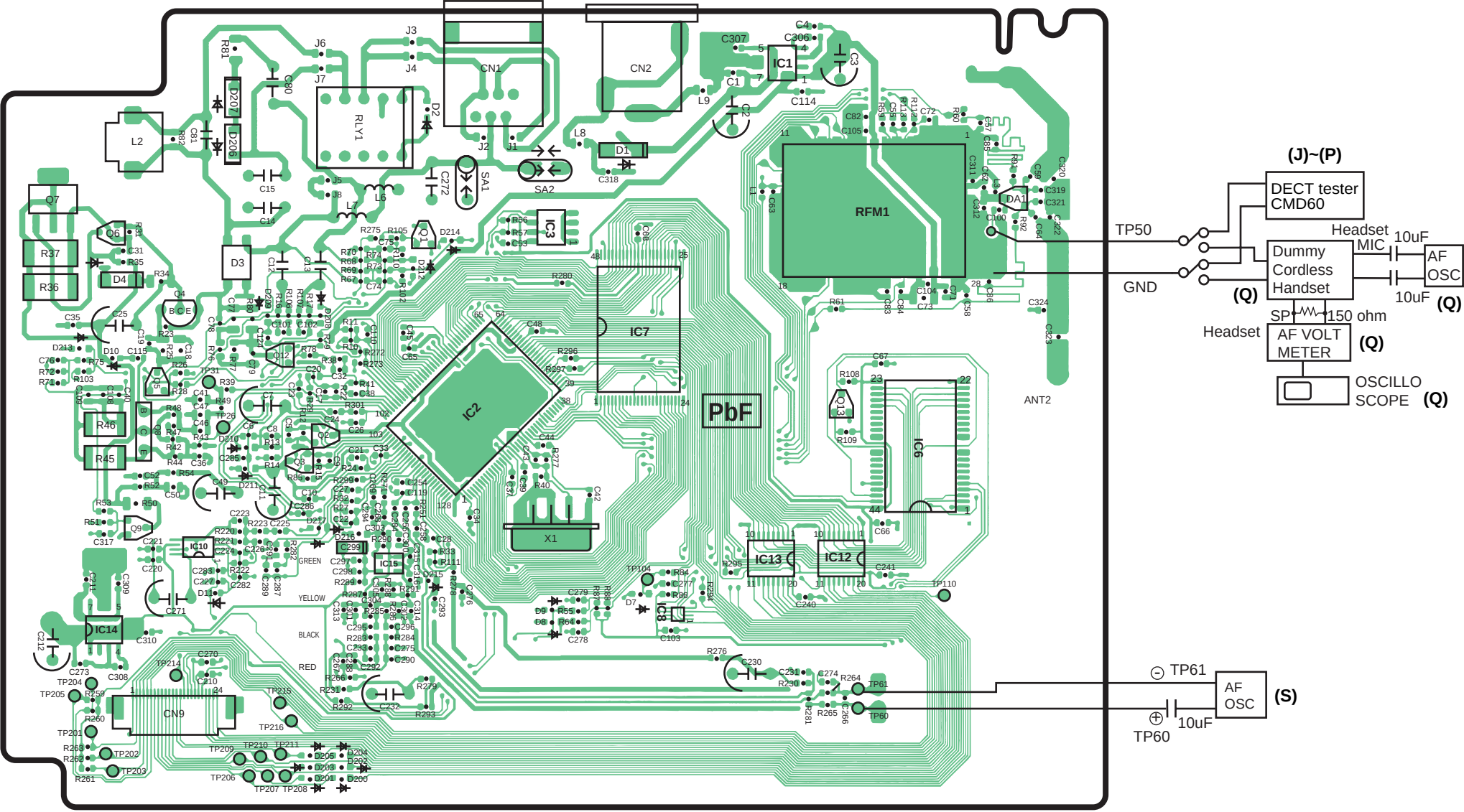

Marked
R
*
7
4
1
LED9
SP
TALK
SOFT_A
LED6
LED7
MIC
0
8
5
2
SW1
IC5
IC4
LED5
LED4
INT
#
9
6
3
MAIL
S1
CLEAR
PbF

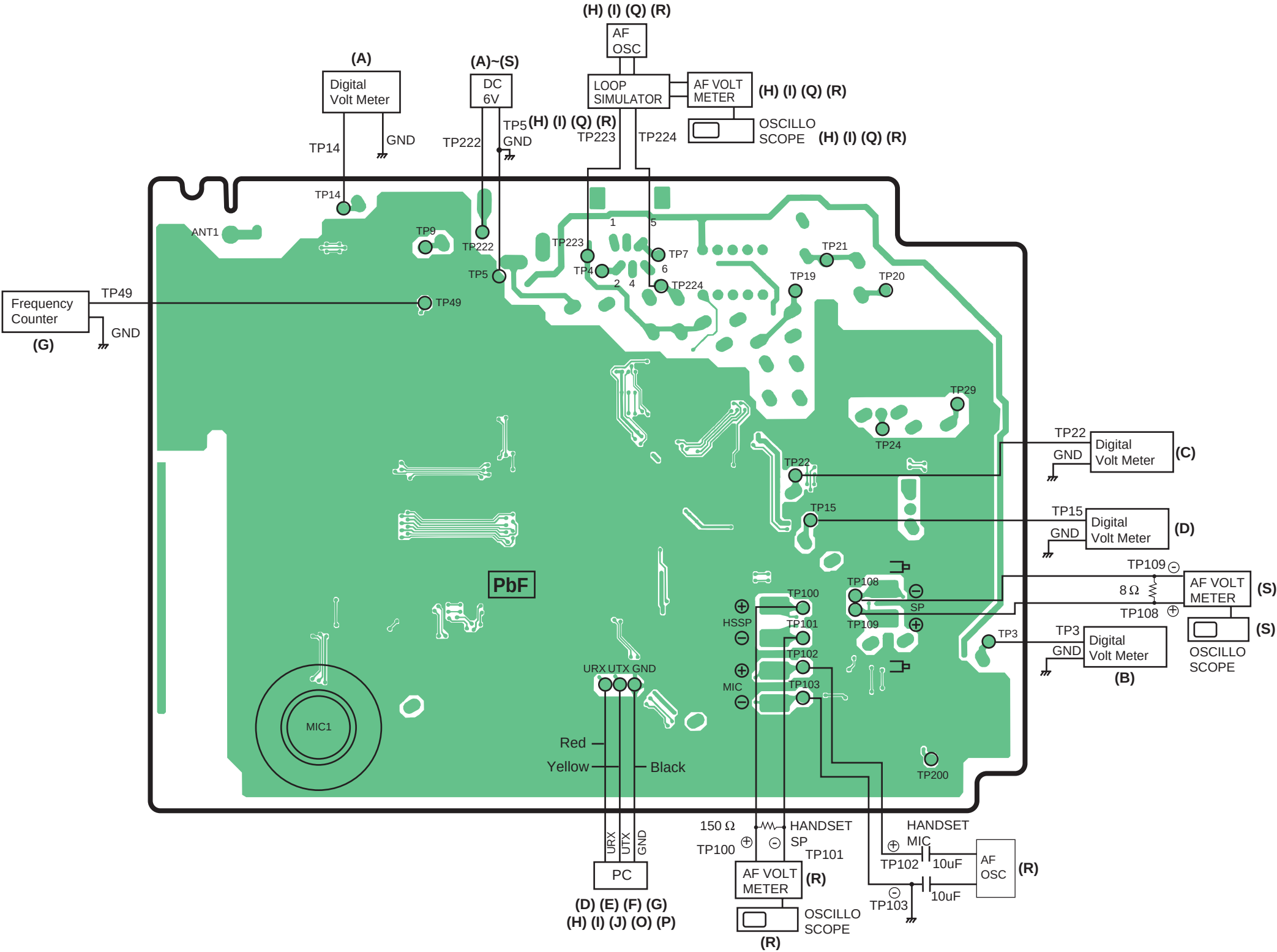


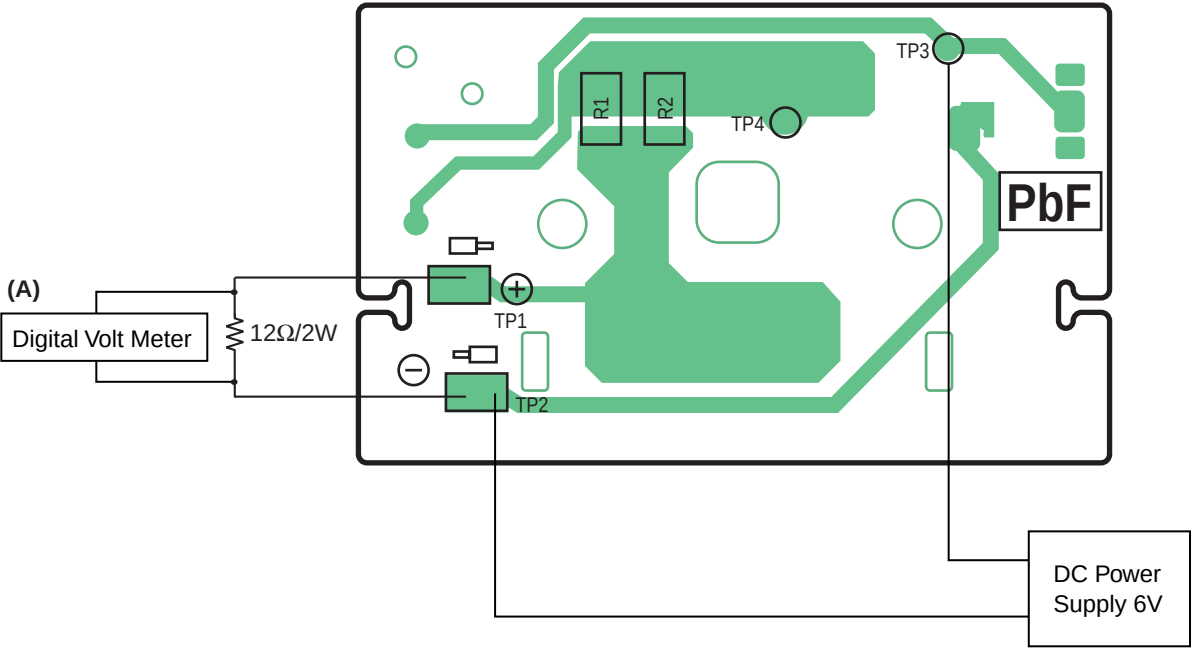

(Component View)

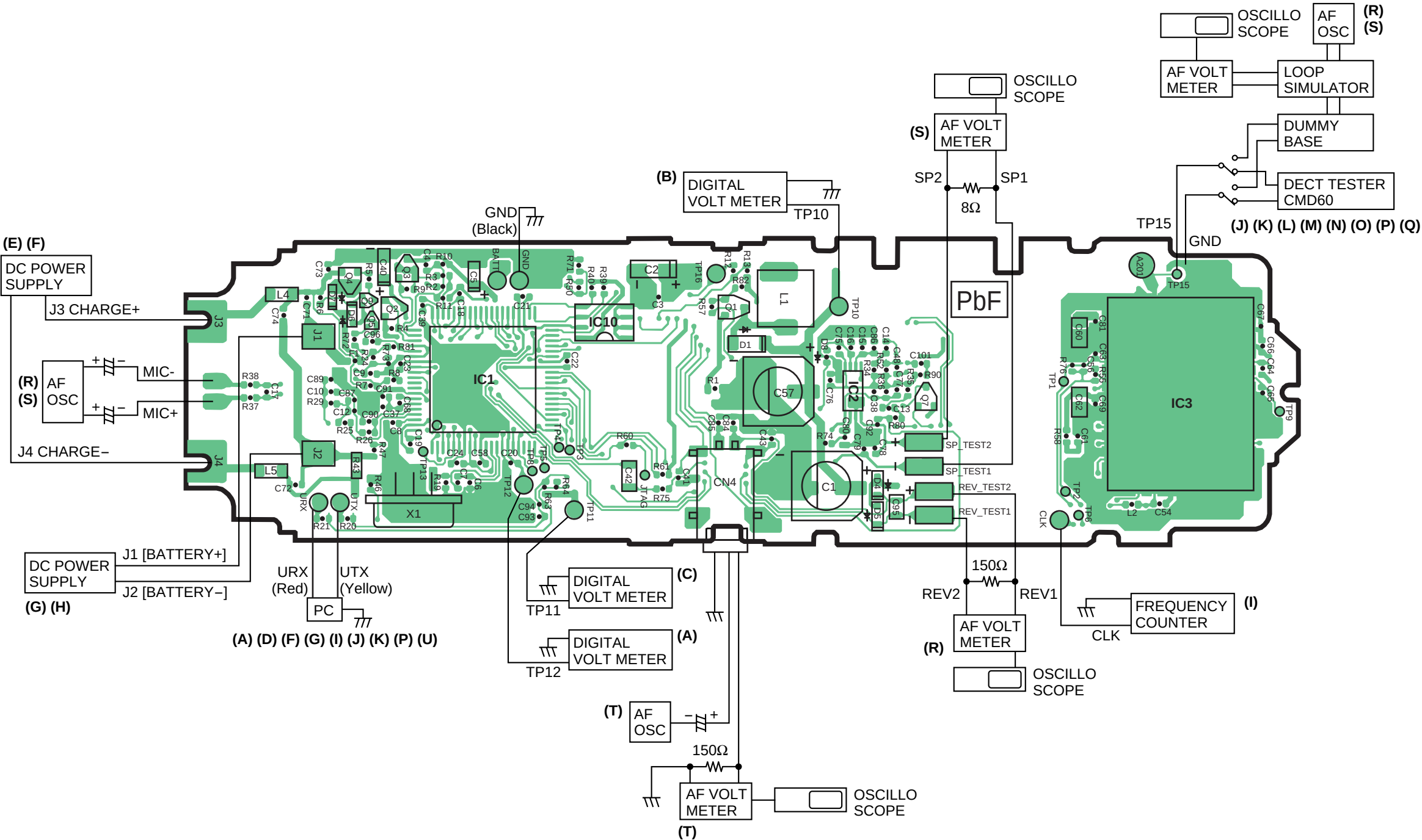


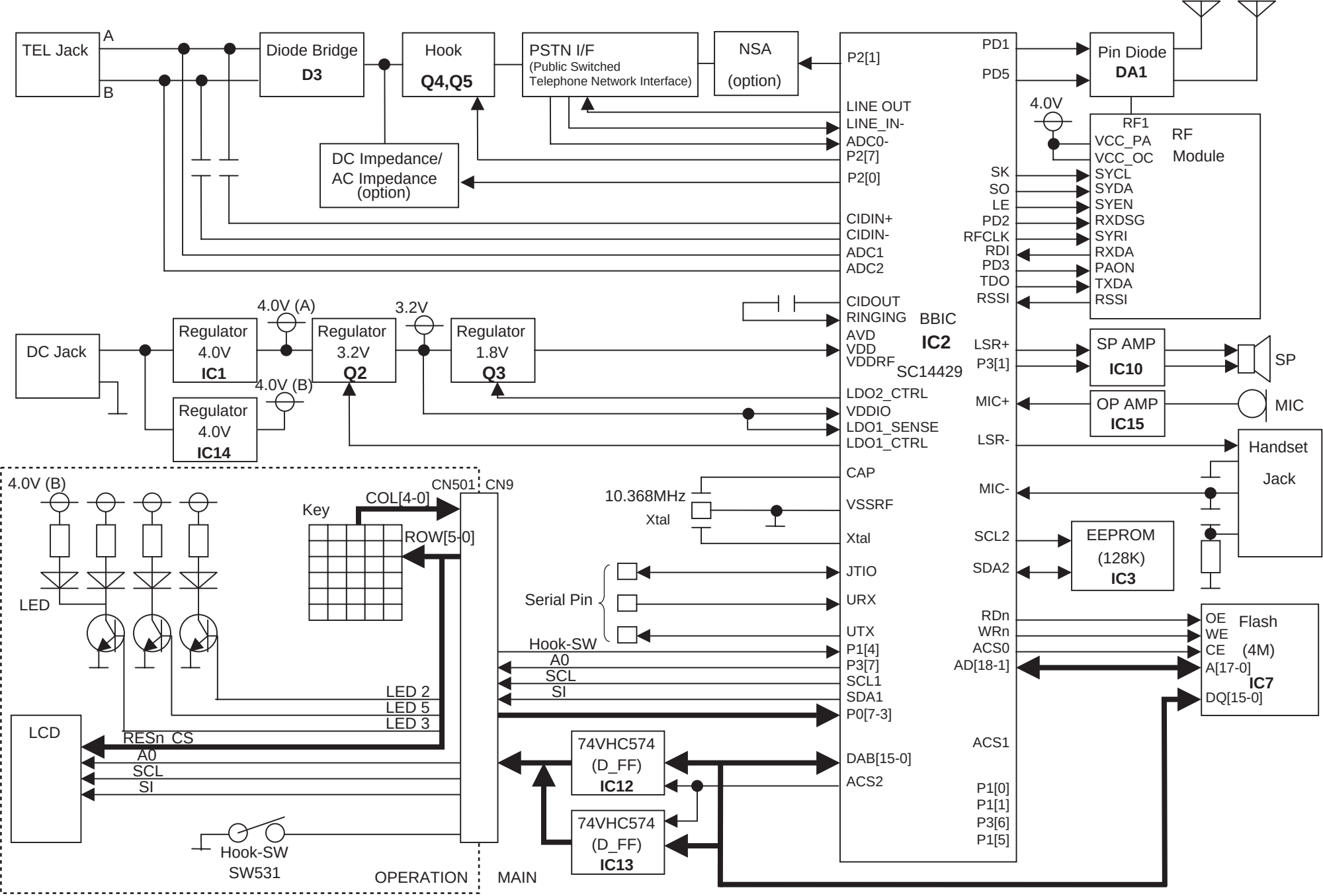

(Flow Solder Side View)


(J)~(P)
DECT tester
CMD60
TP50
Headset
MIC
10uF
Dummy
Cordless
Handset
AF
OSC
10uF
(Q)
(Q)
GND
SP
150 ohm
Headset
AF VOLT
METER
(Q)
OSCILLO
SCOPE
(Q)
ANT2
PbF
RFM1
IC1
IC2
IC3
IC6
IC7
IC8
IC10
IC12
IC13
IC14
IC15
X1
CN1
CN2
CN9
RLY1
SA1
SA2
TP61
AF
OSC
(S)
10uF
TP60

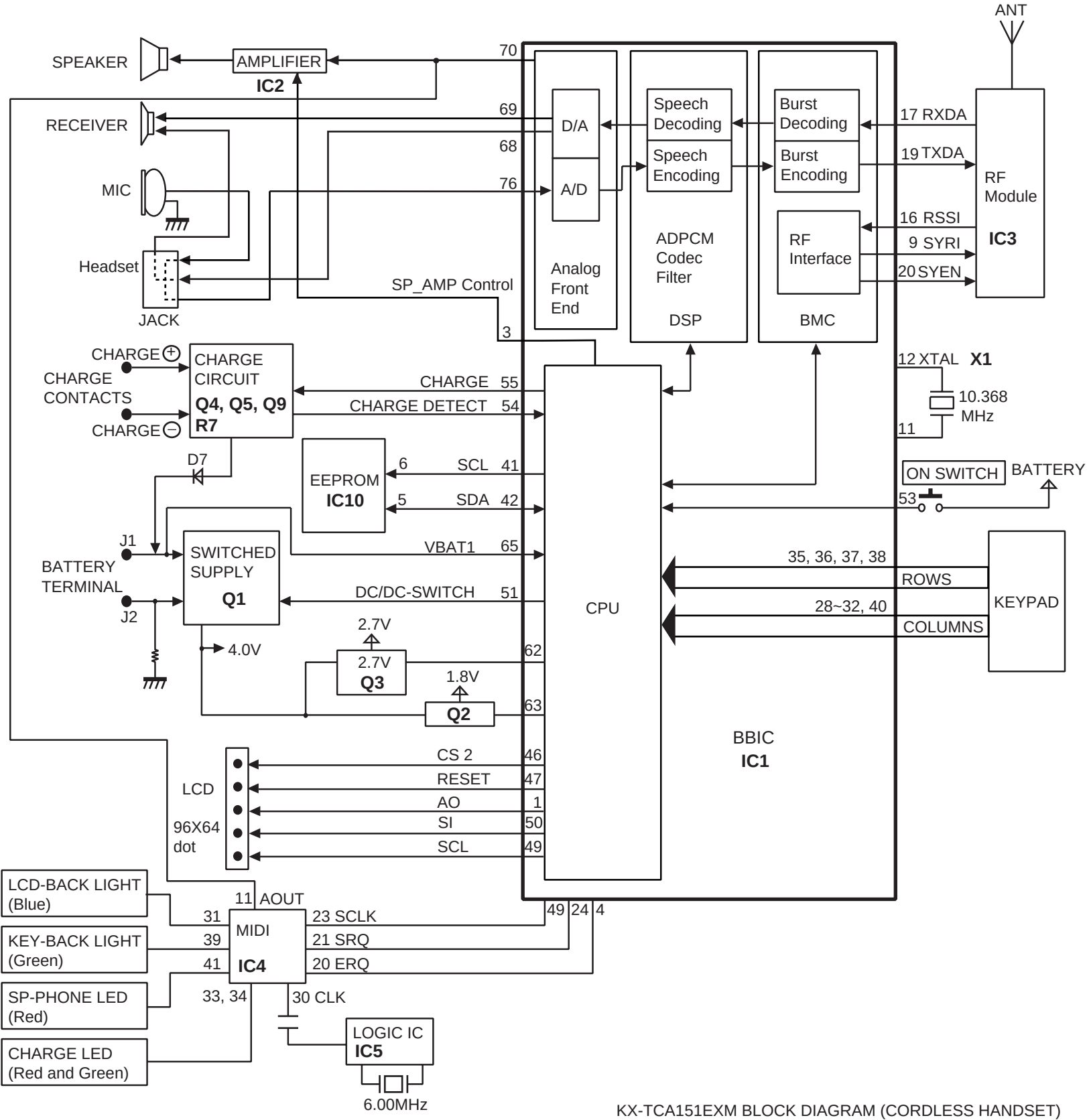

(H) (I) (Q) (R)
AF OSC
(A)
Digital Volt Meter
(A)~(S)
DC 6V
LOOP SIMULATOR
AF VOLT METER
(H) (I) (Q) (R)
OSCILLO SCOPE
(H) (I) (Q) (R)
TP14
GND
TP222
TP5
GND
TP223
TP224
TP14
ANT1
TP9
TP222
TP5
TP223
TP4
TP7
TP224
TP21
TP19
TP20
Frequency Counter
TP49
GND
(G)
TP49
TP29
TP24
TP22
TP22
GND
Digital Volt Meter
(C)
TP15
TP15
GND
Digital Volt Meter
(D)
PbF
TP109
8 Ω
TP108
AF VOLT METER
(S)
OSCILLO SCOPE
(S)
TP108
SP
TP109
TP100
HSSP
TP101
TP102
MIC
TP103
TP3
TP3
GND
Digital Volt Meter
(B)
URX UTX GND
MIC1
Red
Yellow
Black
TP200
URX
UTX
GND
PC
(D) (E) (F) (G)
(H) (I) (J) (O) (P)
150 Ω
HANDSET SP
TP100
TP101
AF VOLT METER
(R)
OSCILLO SCOPE
(R)
HANDSET MIC
TP102
10uF
AF OSC
(R)
TP103
10uF


(A)
Digital Volt Meter
12Ω/2W
TP1
TP2
TP3
TP4
R1
R2
PbF
DC Power
Supply 6V

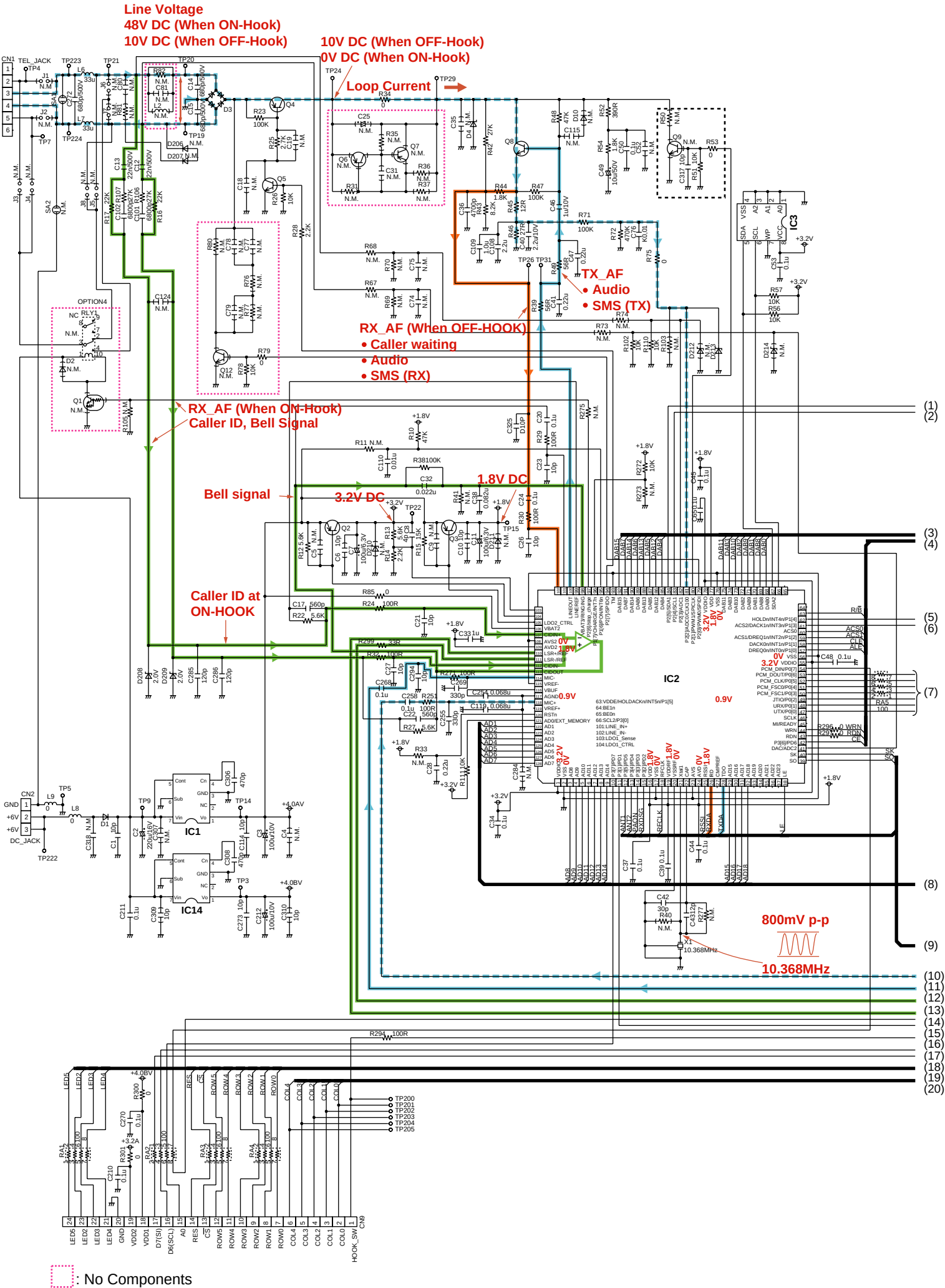

(E) (F)
DC POWER SUPPLY
J3 CHARGE+
(R) (S)
AF OSC
MIC-
MIC+
J4 CHARGE−
DC POWER SUPPLY
J1 [BATTERY+]
J2 [BATTERY−]
(G) (H)
URX (Red)
UTX (Yellow)
PC
(A) (D) (F) (G) (I) (J) (K) (P) (U)
GND (Black)
(B)
DIGITAL VOLT METER
TP10
(C)
DIGITAL VOLT METER
TP11
(A)
DIGITAL VOLT METER
TP12
(T)
AF OSC
150Ω
AF VOLT METER
OSCILLO SCOPE
(T)
(S)
OSCILLO SCOPE
AF VOLT METER
SP2
SP1
8Ω
PbF
150Ω
REV2
REV1
(R)
AF VOLT METER
OSCILLO SCOPE
TP15
GND
OSCILLO SCOPE
AF OSC
(R) (S)
AF VOLT METER
LOOP SIMULATOR
DUMMY BASE
DECT TESTER CMD60
(J) (K) (L) (M) (N) (O) (P) (Q)
FREQUENCY COUNTER
(I)
CLK
IC1
IC2
IC3
IC10
CN4
X1
SP_TEST2
SP_TEST1
REV_TEST2
REV_TEST1

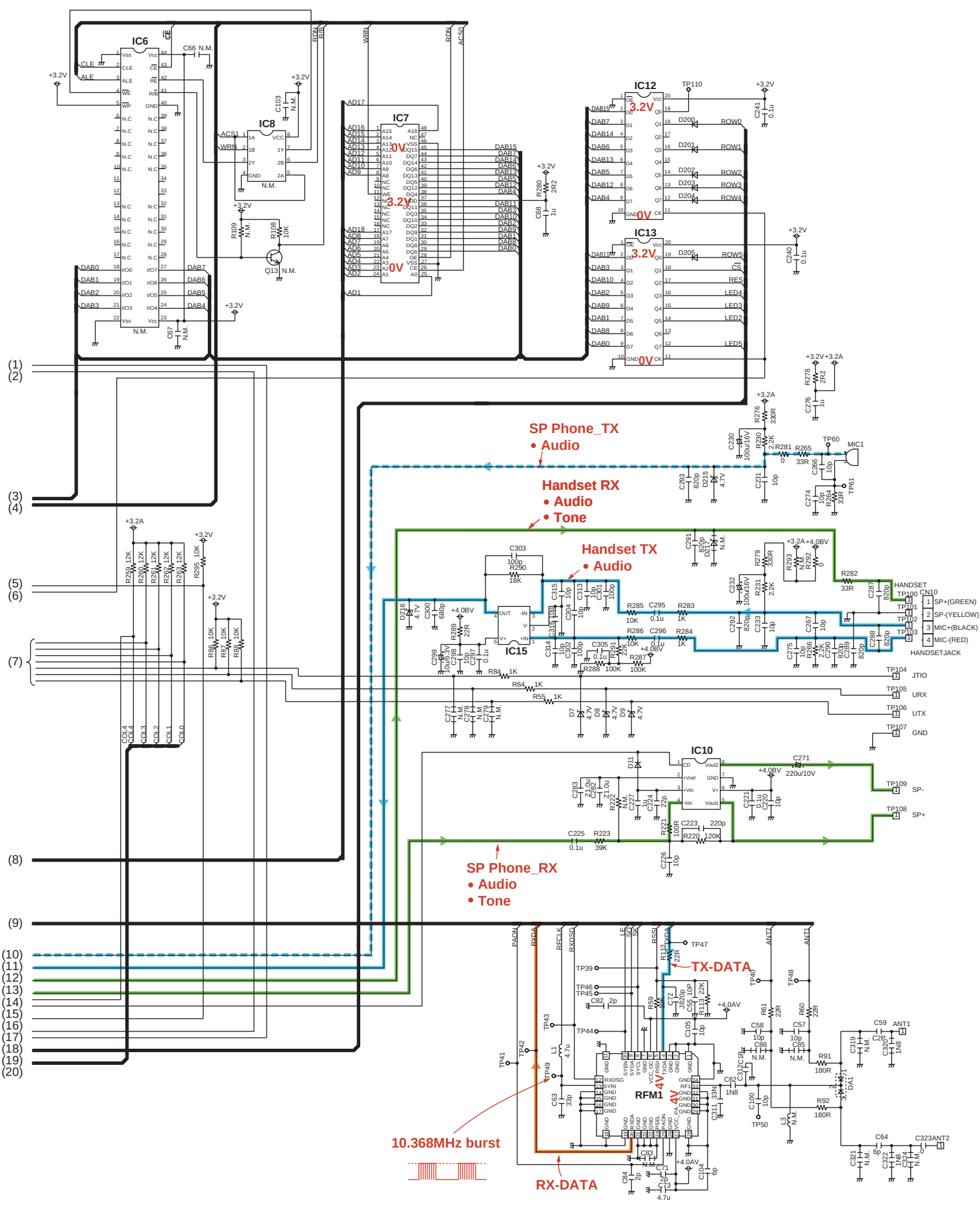



KX-TCD530SLM BLOCK DIAGRAM (BASE UNIT)

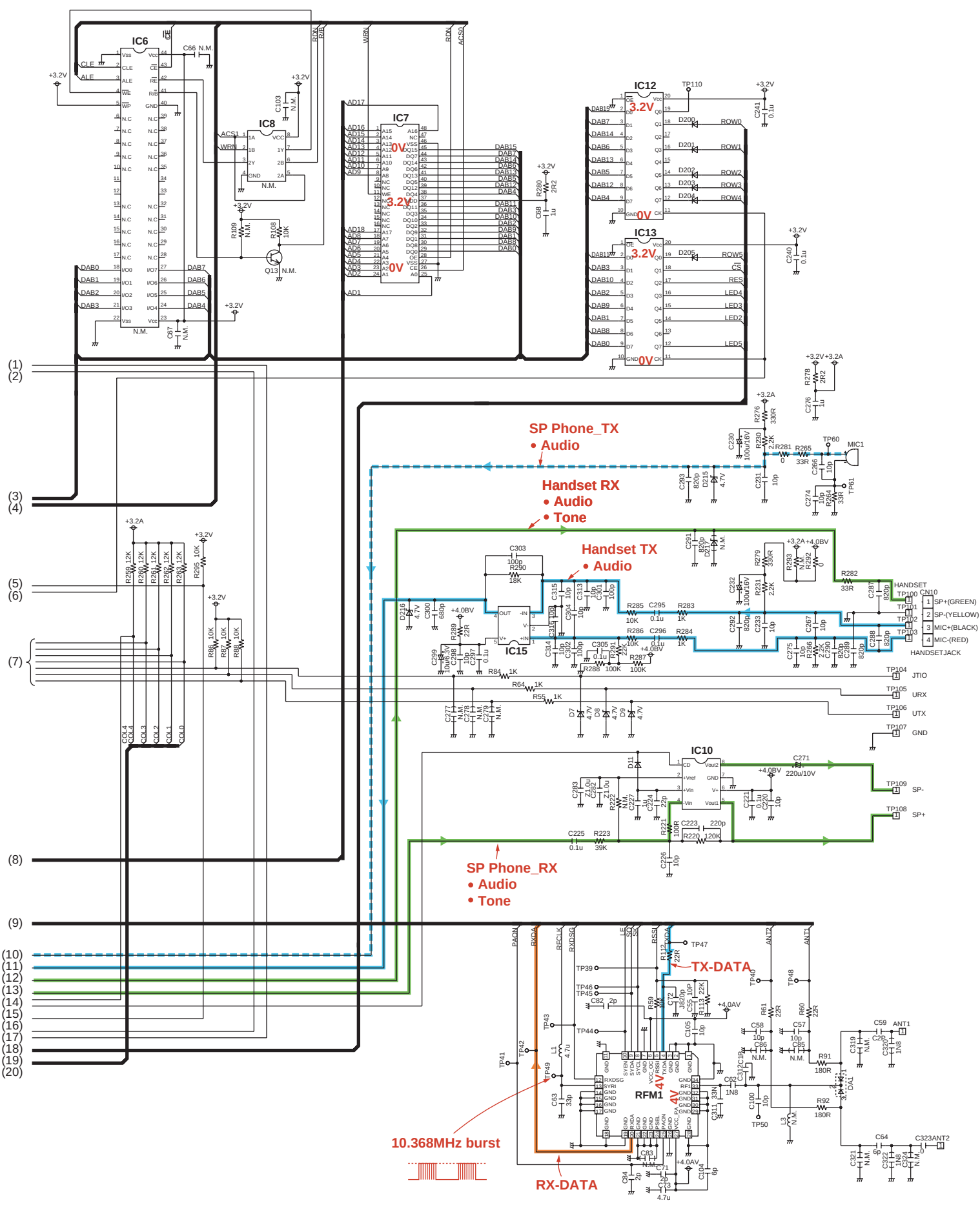



KX-TCA151EXM BLOCK DIAGRAM (CORDLESS HANDSET)

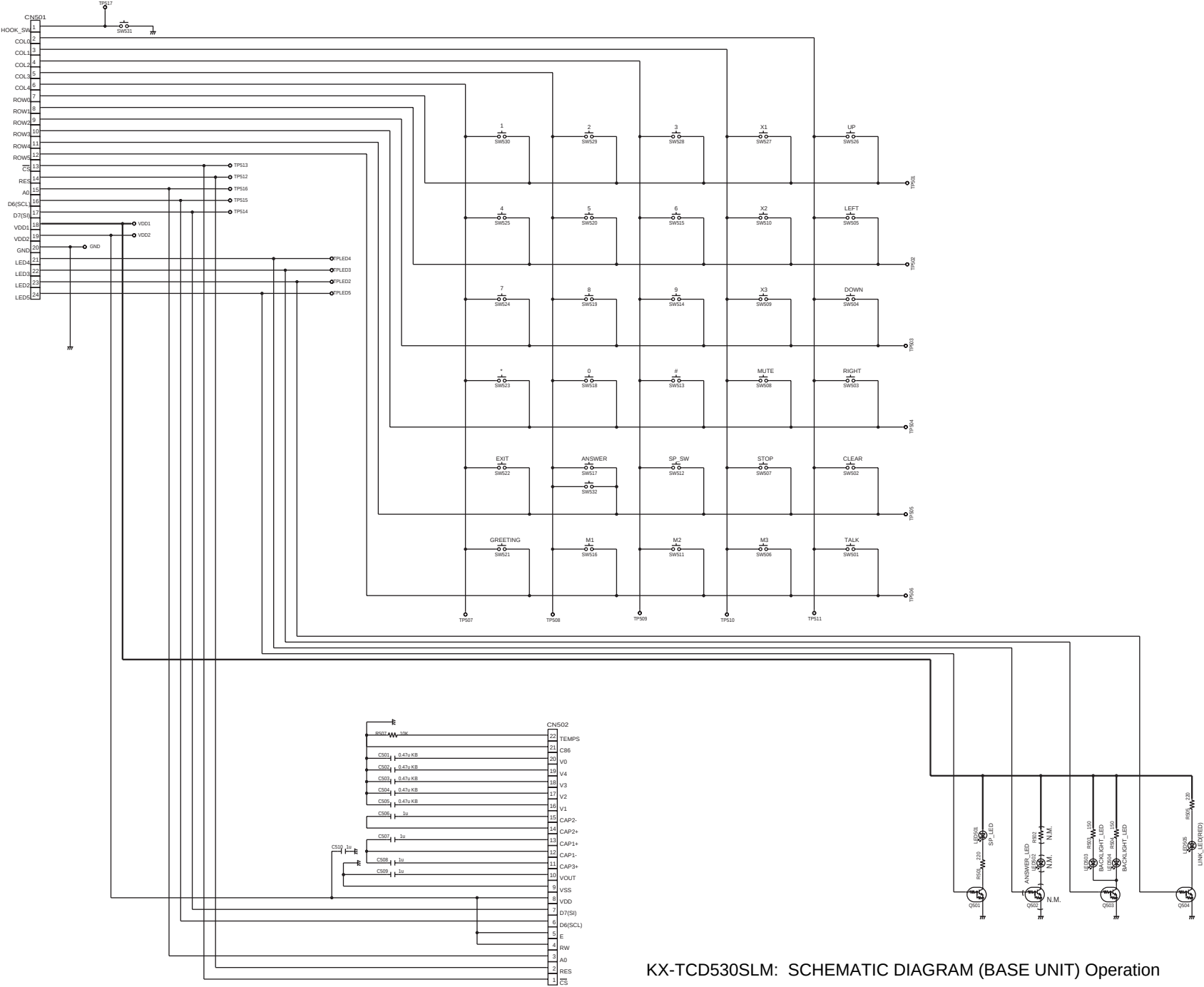

Line Voltage
48V DC (When ON-Hook)
10V DC (When OFF-Hook)
10V DC (When OFF-Hook)
0V DC (When ON-Hook)
Loop Current
TX_AF
• Audio
• SMS (TX)
RX_AF (When OFF-HOOK)
• Caller waiting
• Audio
• SMS (RX)
RX_AF (When ON-Hook)
Caller ID, Bell Signal
Bell signal
3.2V DC
1.8V DC
Caller ID at
ON-HOOK
800mV p-p
10.368MHz
IC1
IC2
IC14
IC3
: No Components



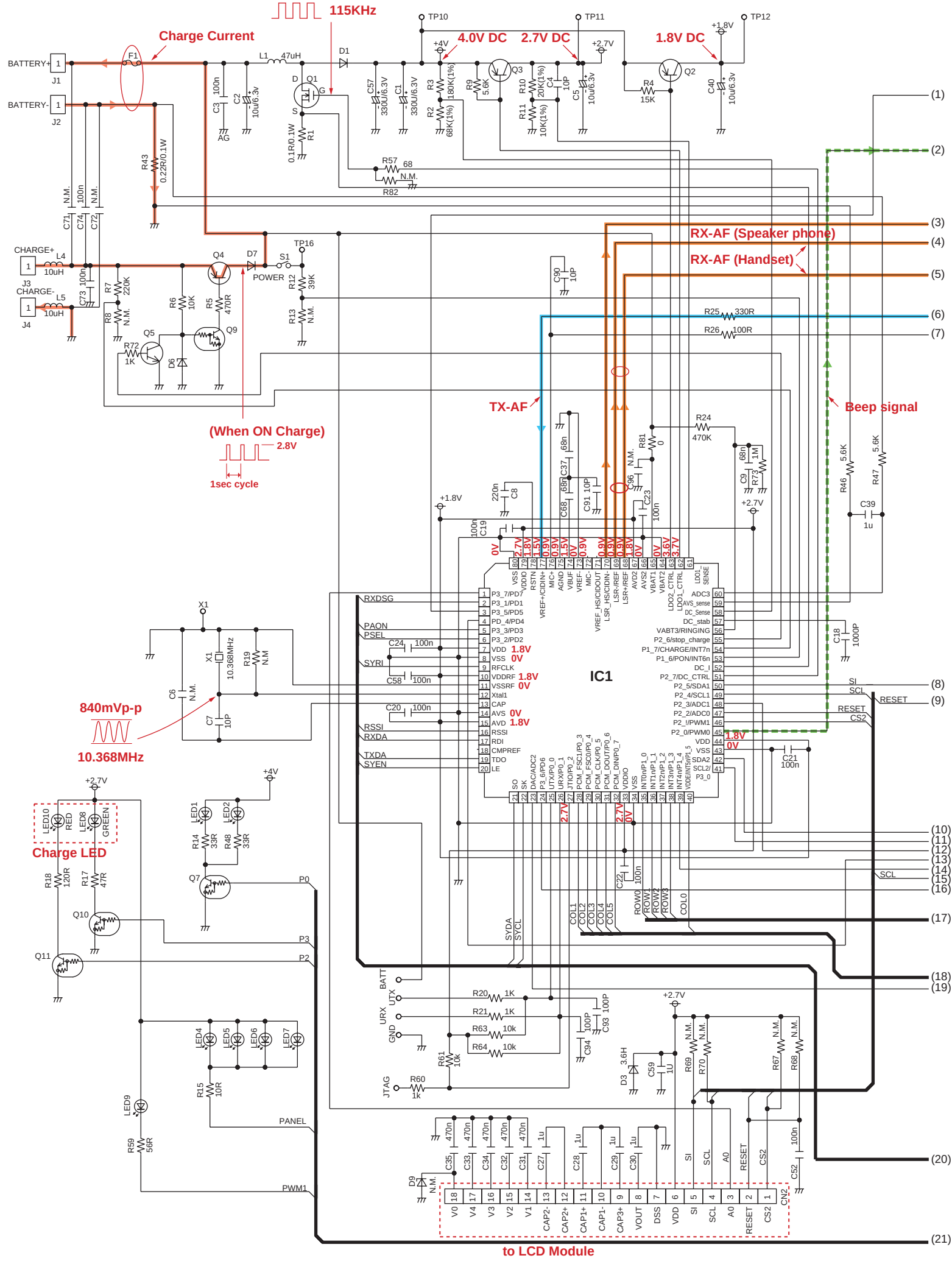

KX-TCD530SLM: SCHEMATIC DIAGRAM (BASE UNIT)

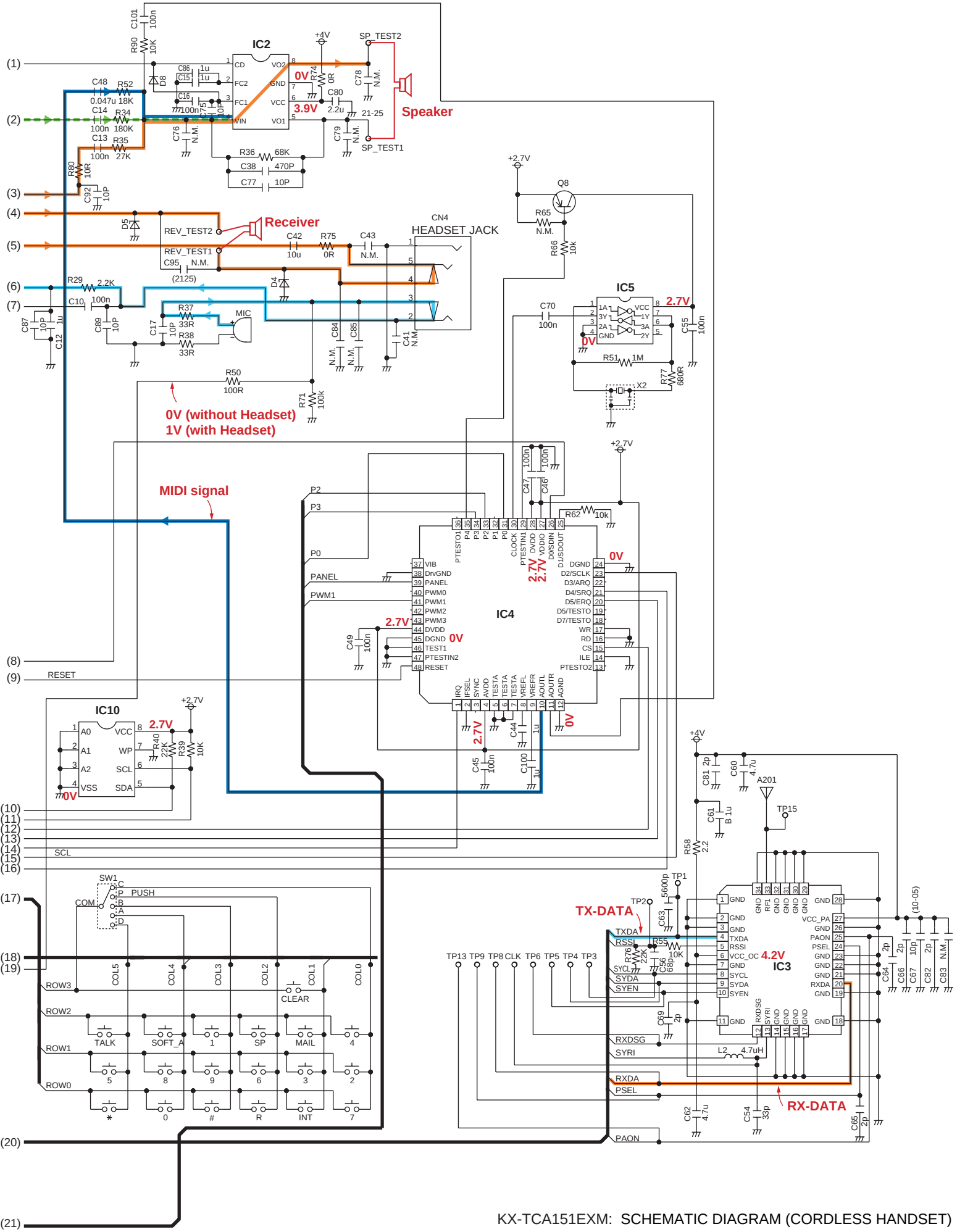



KX-TCD530SLM: SCHEMATIC DIAGRAM (BASE UNIT)

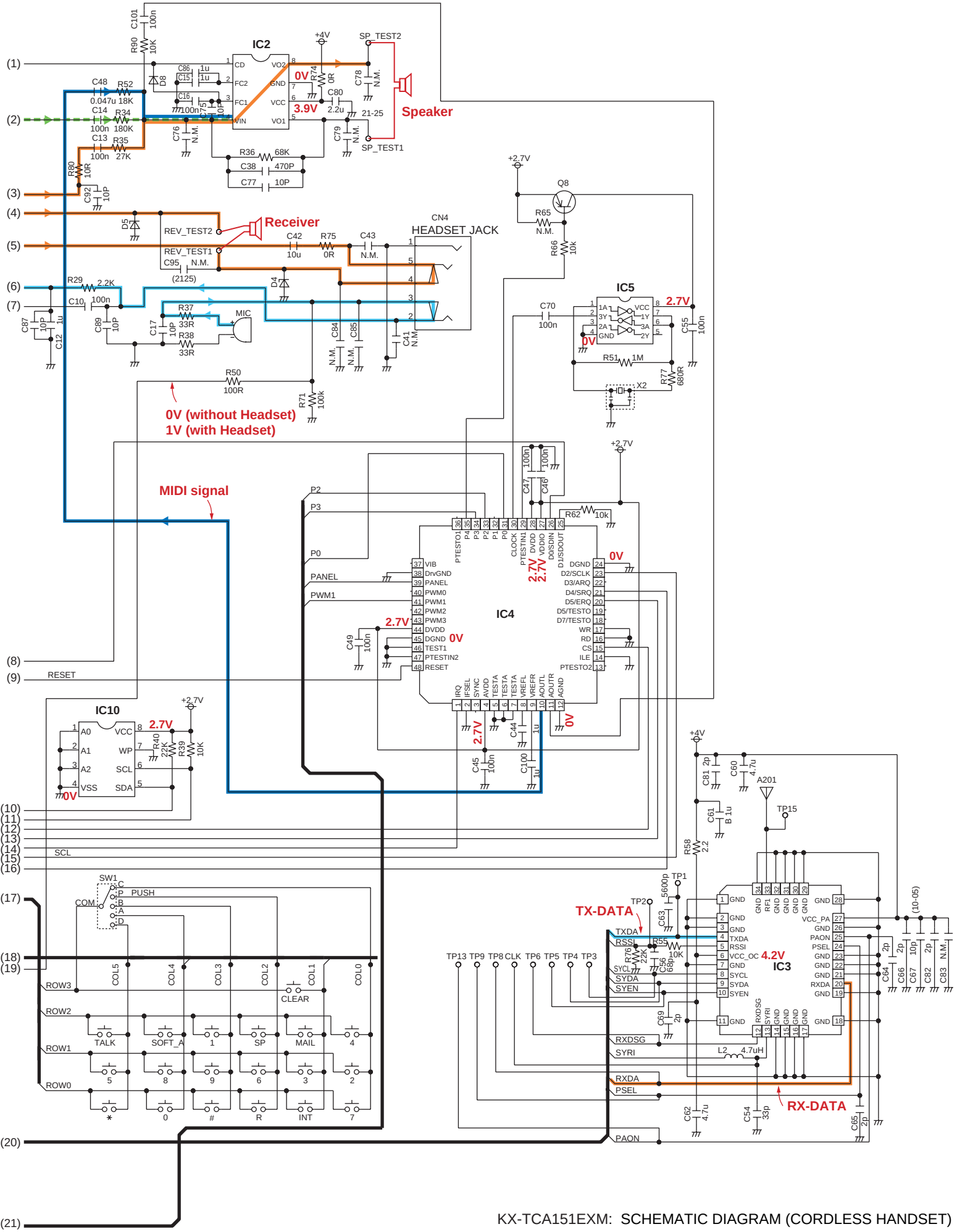



KX-TCD530SLM: SCHEMATIC DIAGRAM (BASE UNIT) Operation

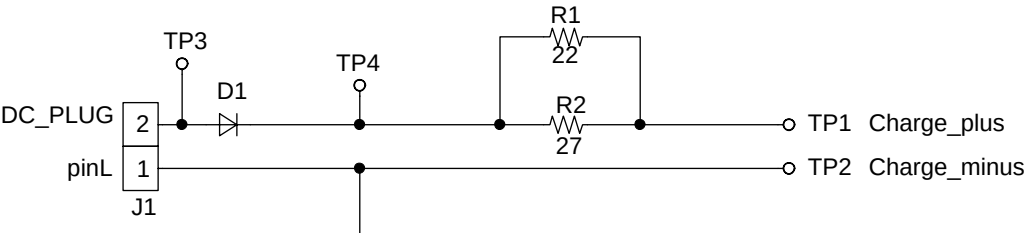

115KHz
Charge Current
BATTERY+
BATTERY-
J1
J2
F1
L1 47uH
D1
Q1
TP10
TP11
TP12
4.0V DC
2.7V DC
1.8V DC
+4V
+2.7V
+1.8V
Q3
Q2
R4 15K
R43 0.22R/0.1W
R57 68
N.M.
R82
CHARGE+
CHARGE-
L4 10uH
L5 10uH
J3
J4
Q4
D7
S1
POWER
TP16
R7 220K
R8 N.M.
R6 10K
R5 470R
R12 39K
R13 N.M.
Q5
Q9
R72 1K
D6
(When ON Charge)
2.8V
1sec cycle
RX-AF (Speaker phone)
RX-AF (Handset)
TX-AF
Beep signal
R25 330R
R26 100R
R24 470K
R81 0
R46 5.6K
R47 5.6K
C39 1u
IC1
X1
10.368MHz
840mVp-p
10.368MHz
Charge LED
LED10 RED
LED8 GREEN
LED1
LED2
R14 33R
R48 33R
R18 120R
R17 47R
Q7
Q10
Q11
P0
P3
P2
LED4
LED5
LED6
LED7
R15 10R
LED9
R59 56R
PANEL
PWM1
D9
D3 3.6H
R69 N.M.
R70 N.M.
R67 N.M.
R68 N.M.
C59 1U
R20 1K
R21 1K
R63 10k
R64 10k
R60 1k
R61 10k
JTAG
BATT
UTX
URX
GND
to LCD Module
CN2
SI
SCL
RESET
CS2
A0
VDD
DSS
VOUT
CAP3+
CAP1-
CAP2+
CAP2-
V0
V4
V3
V2
V1



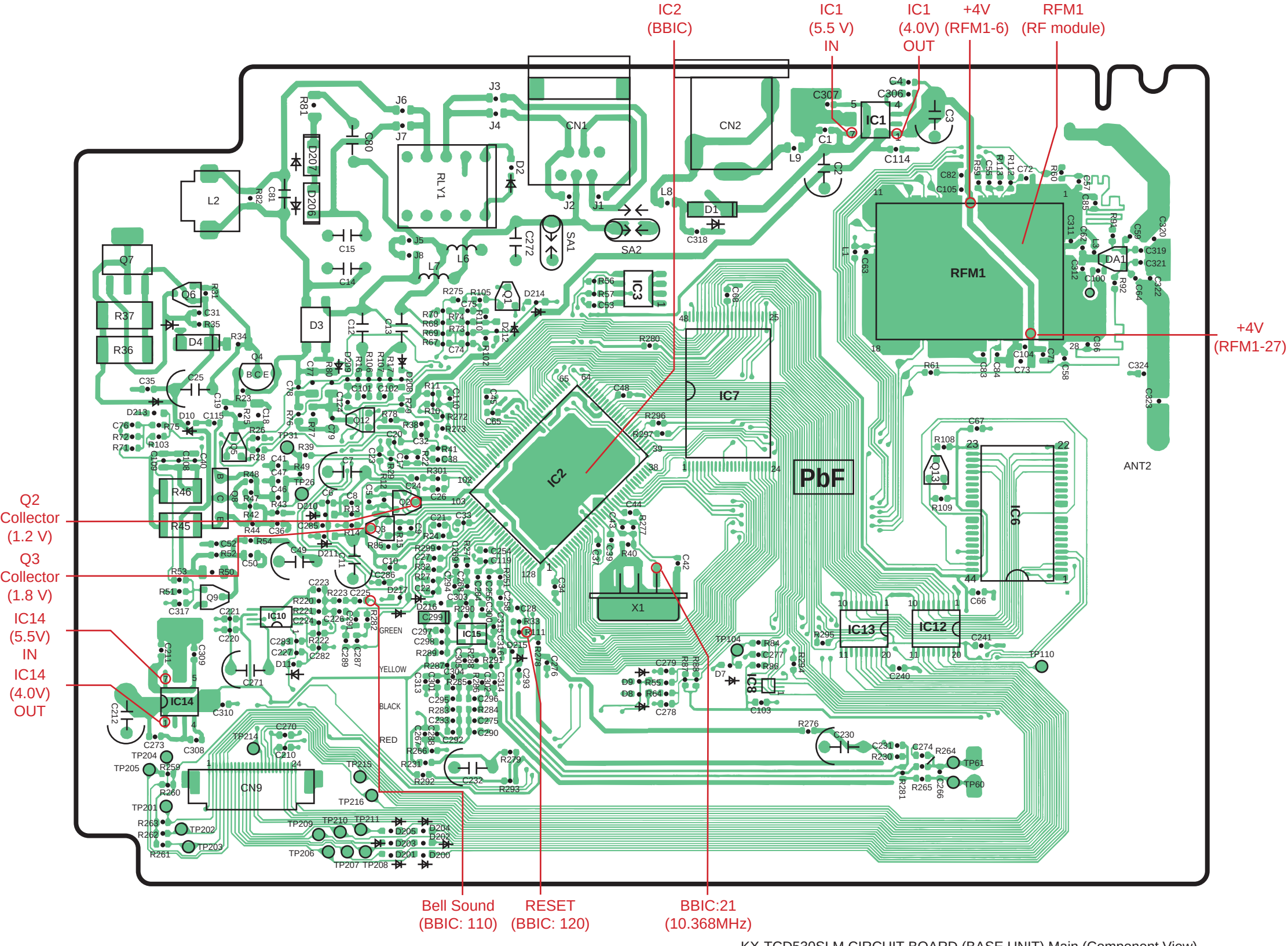

KX-TCA151EXM: SCHEMATIC DIAGRAM (CORDLESS HANDSET)



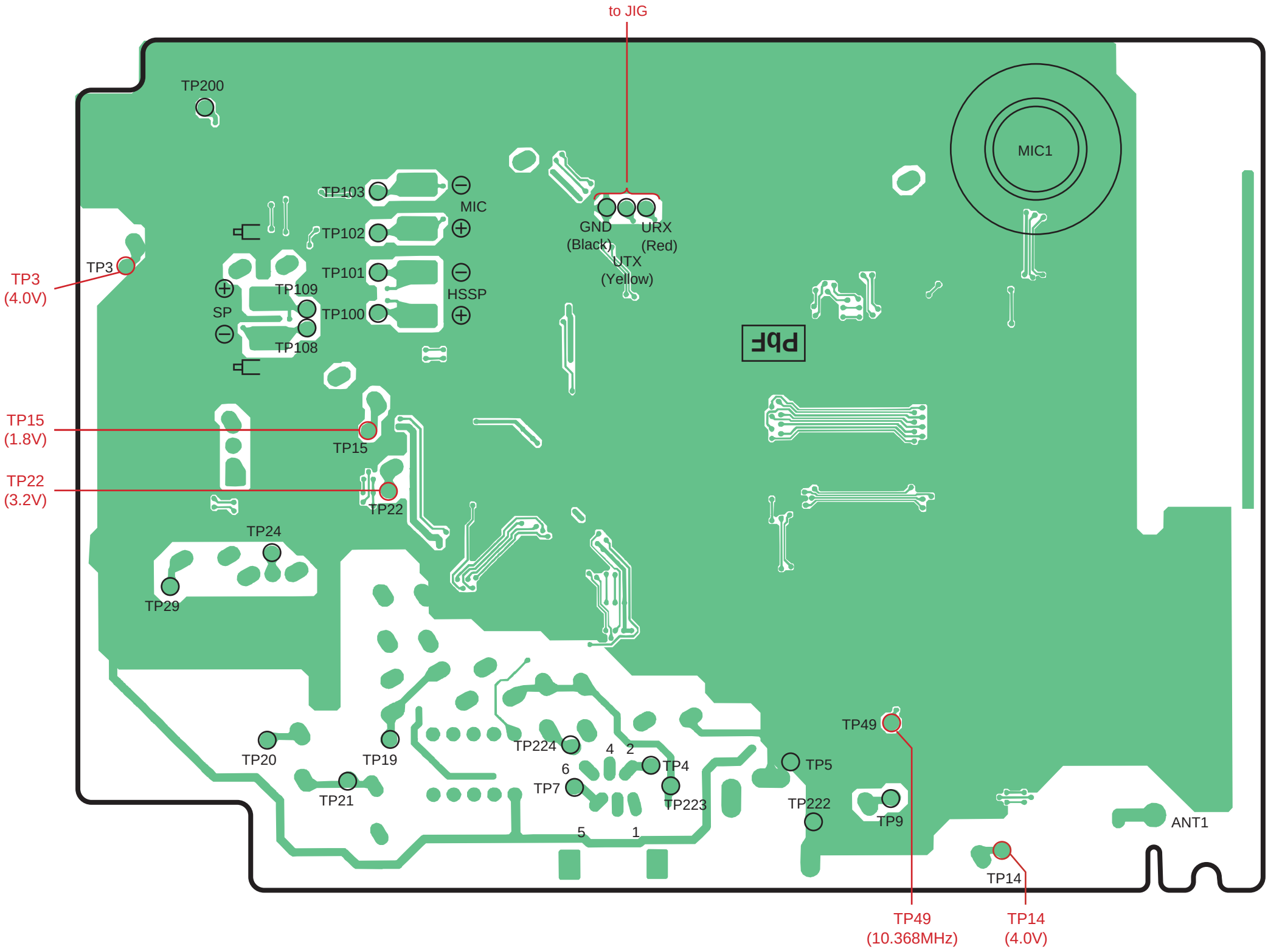

KX-TCA151EXM: SCHEMATIC DIAGRAM (CORDLESS HANDSET)



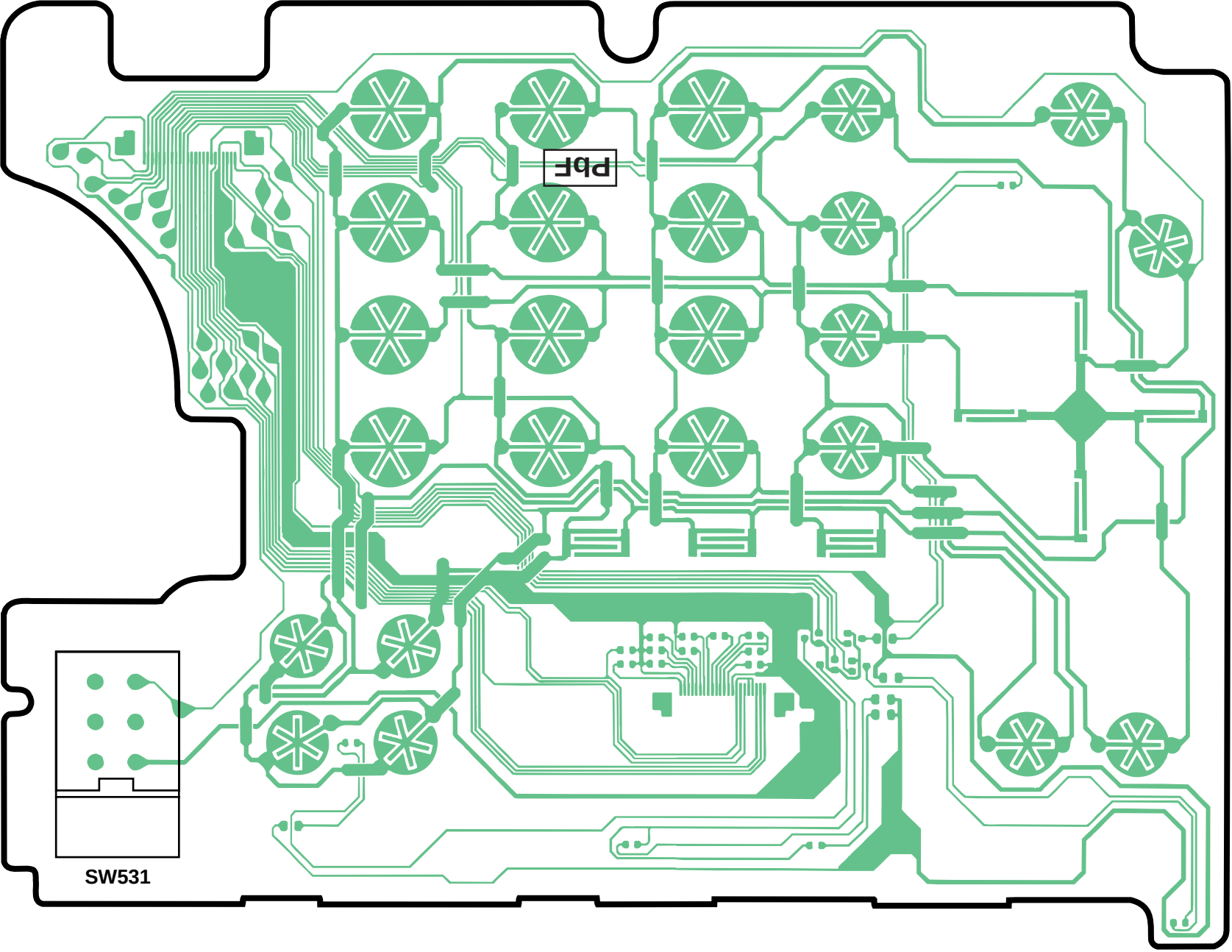

SCHEMATIC DIAGRAM (CHARGER UNIT)

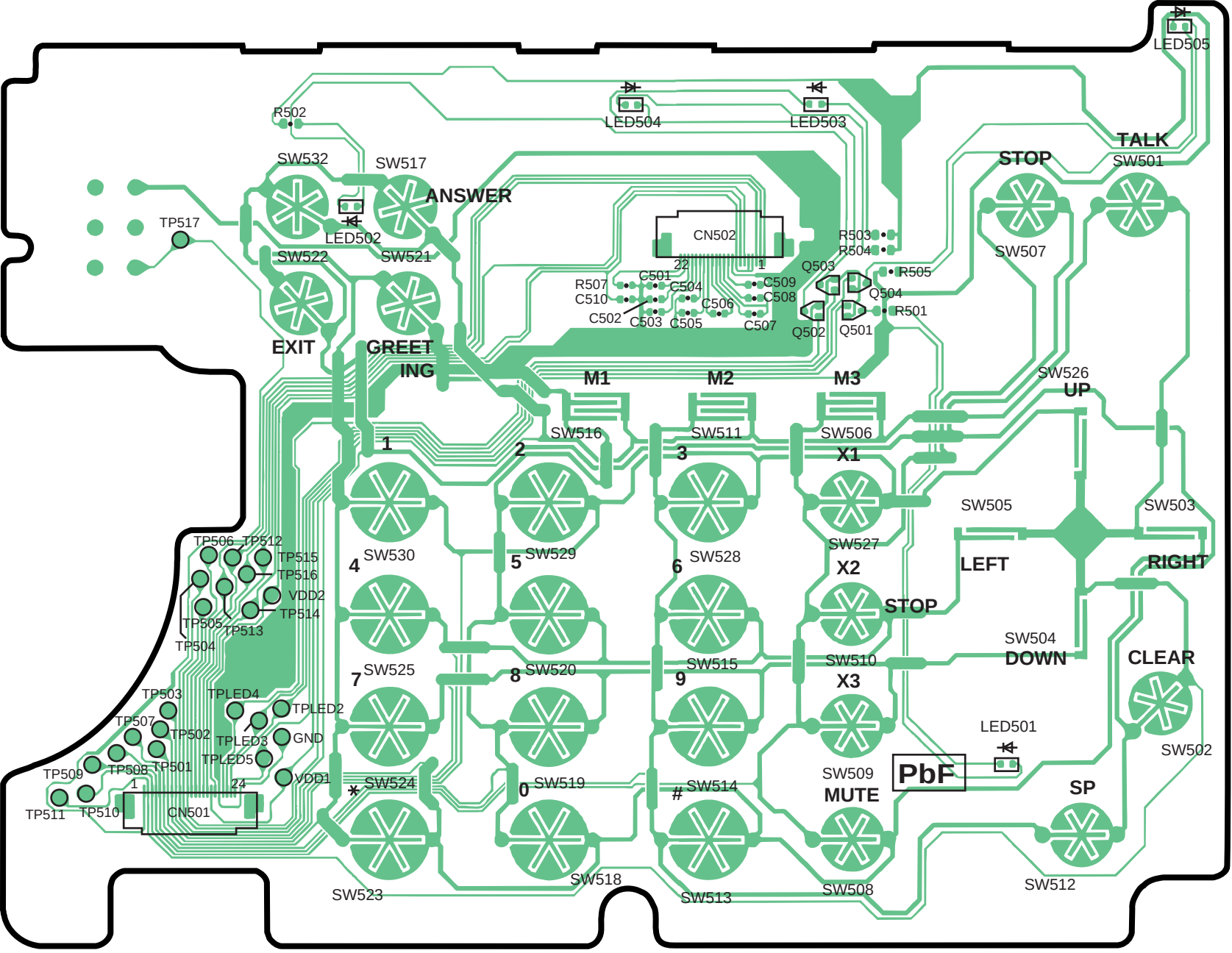



KX-TCD530SLM CIRCUIT BOARD (BASE UNIT) Main (Component View)

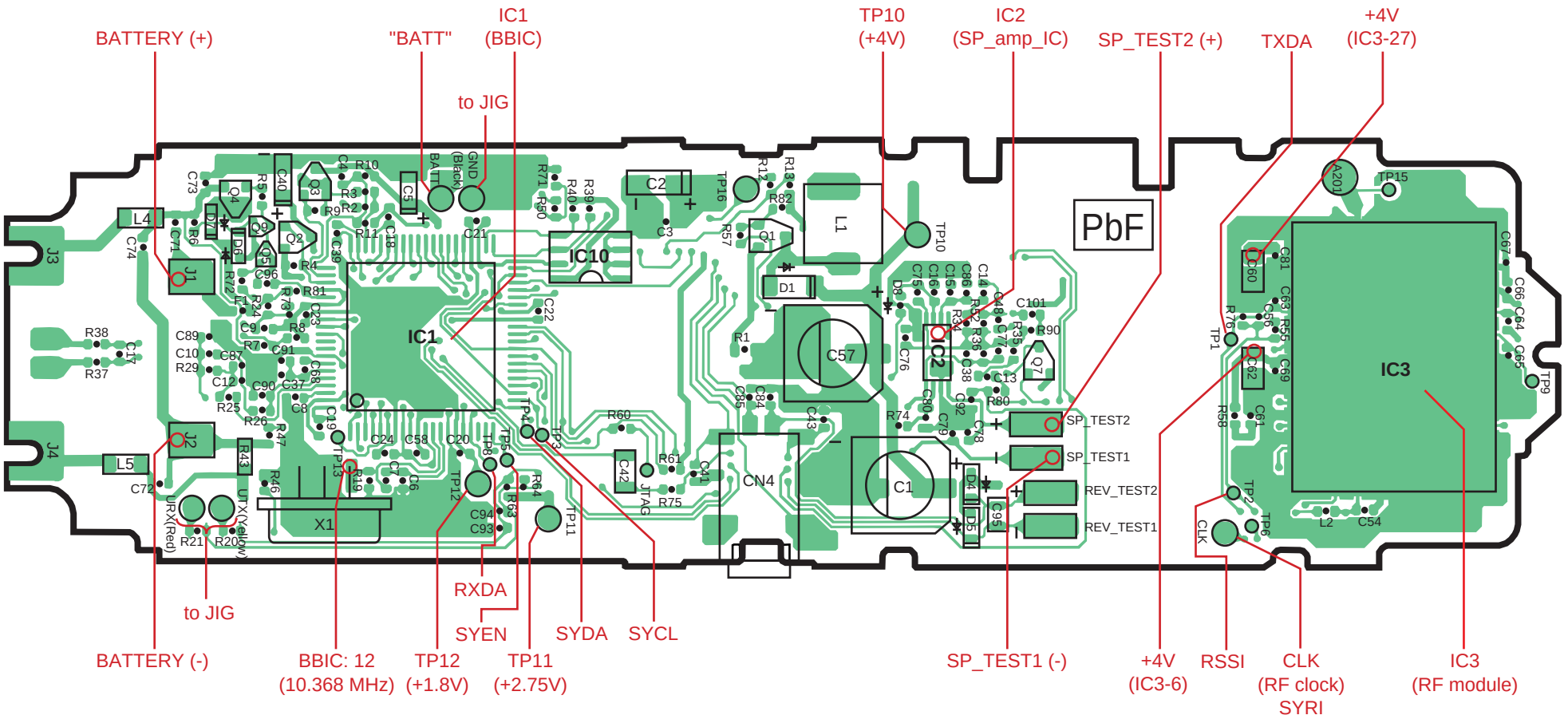



KX-TCD530SLM CIRCUIT BOARD (BASE UNIT) Main (Flow Solder Side View)

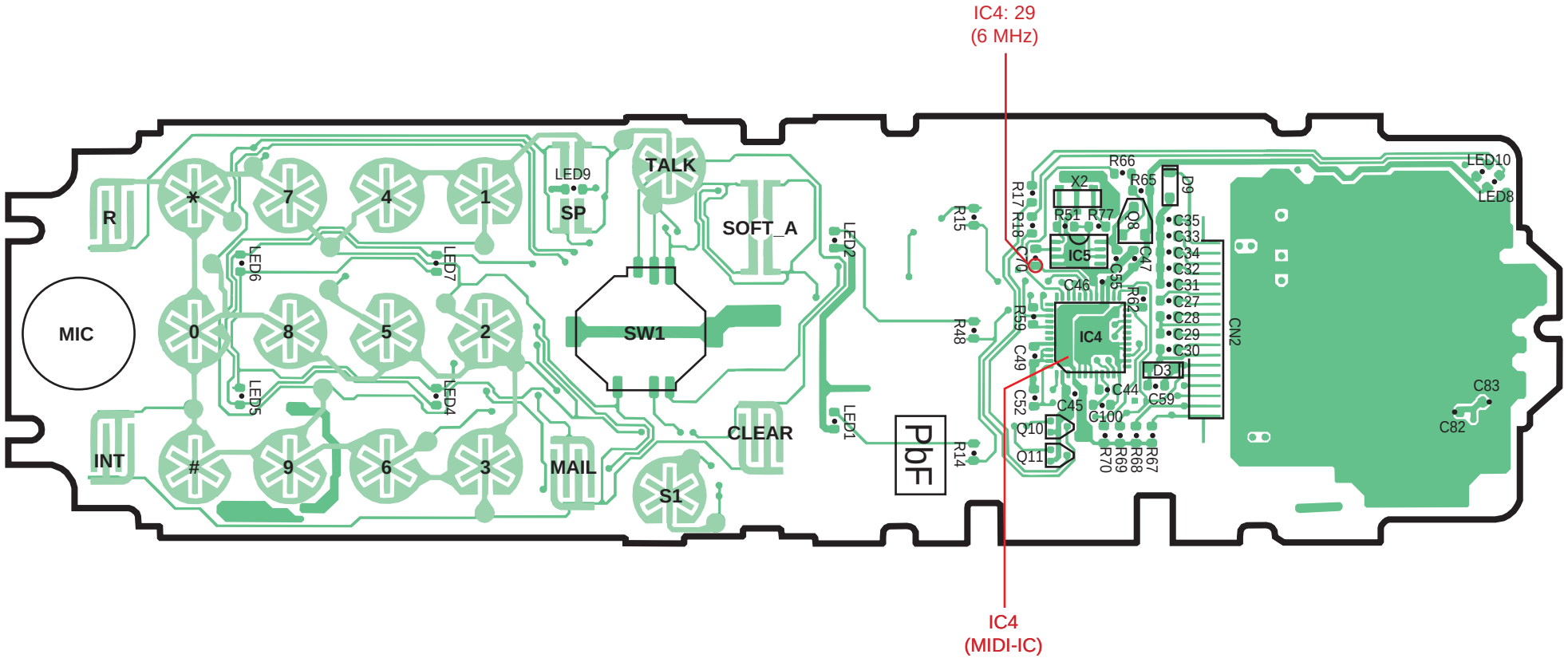

PbF
SW531



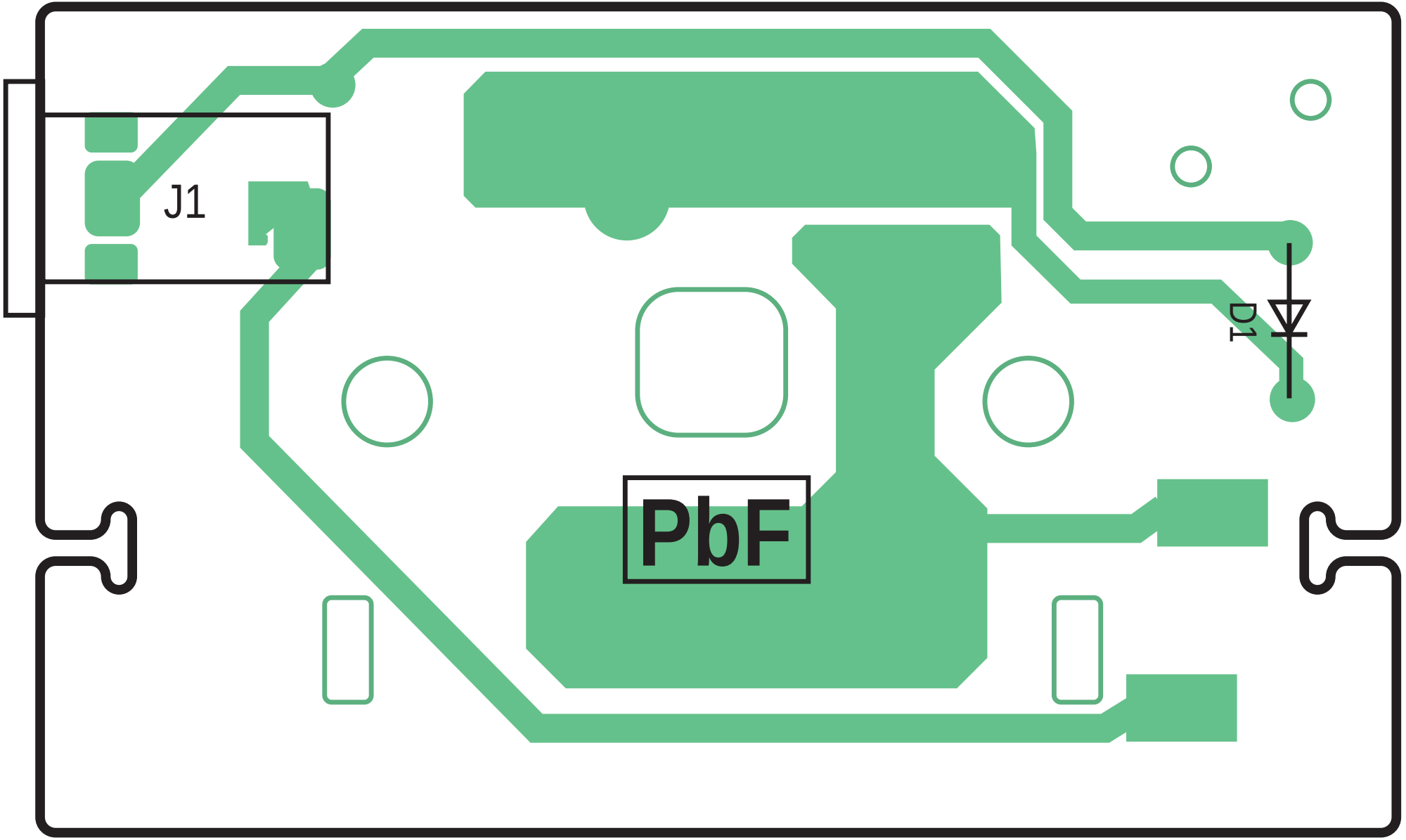

KX-TCD530SLM CIRCUIT BOARD (BASE UNIT) Operation (Flow Solder Side View)



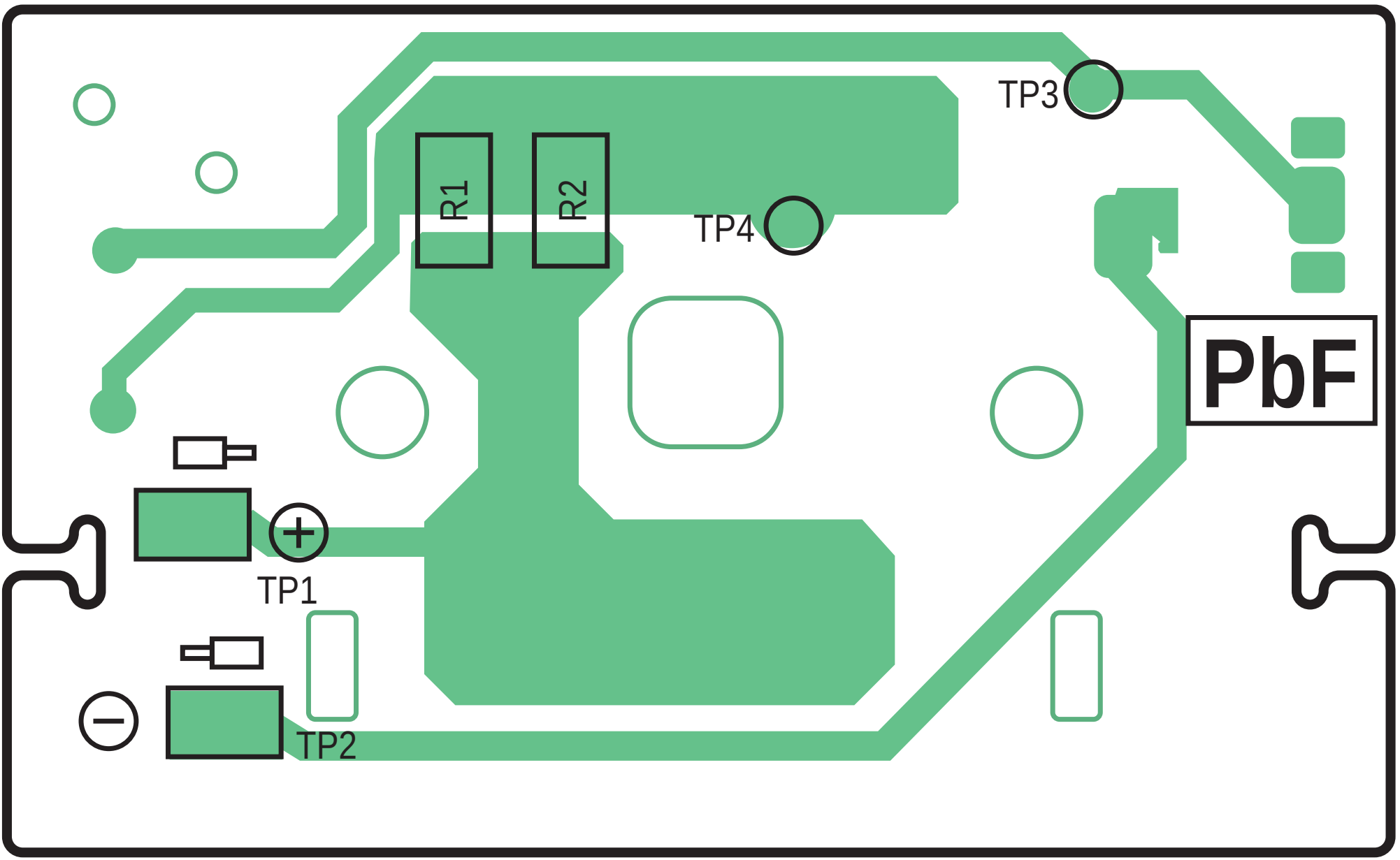

KX-TCA151EXM CIRCUIT BOARD (CORDLESS HANDSET) Component View



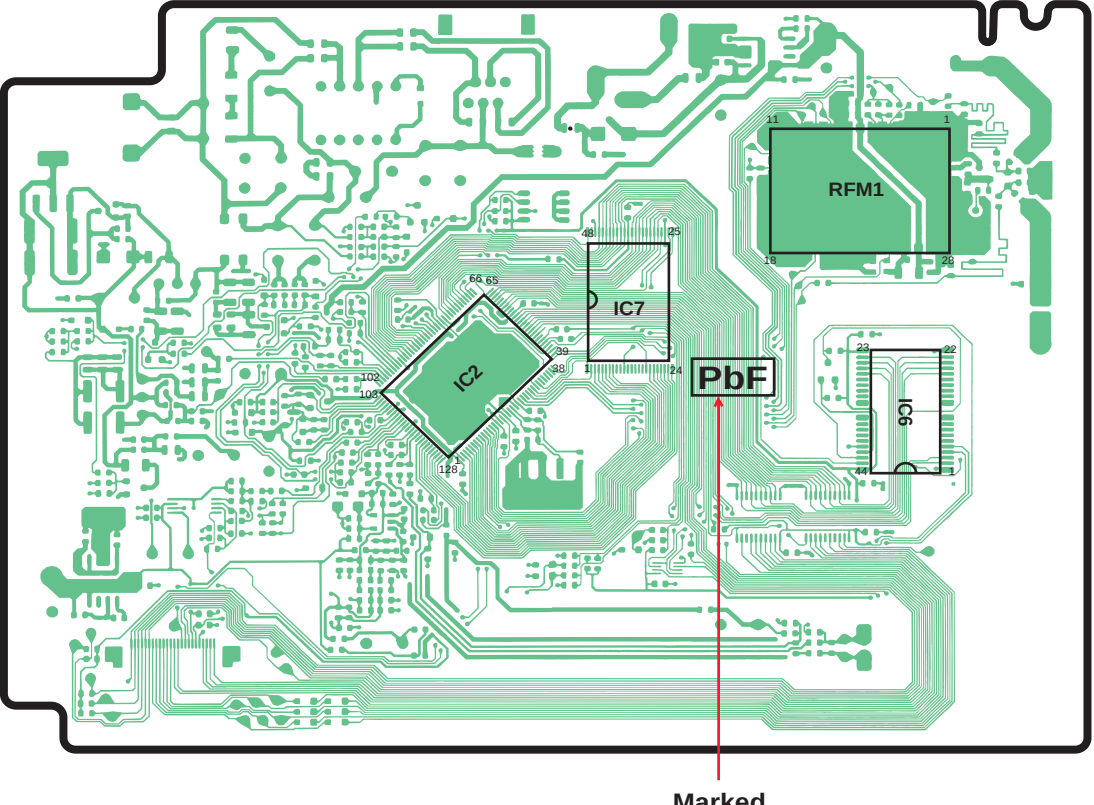

KX-TCA151EXM CIRCUIT BOARD (CORDLESS HANDSET) Flow Solder Side View

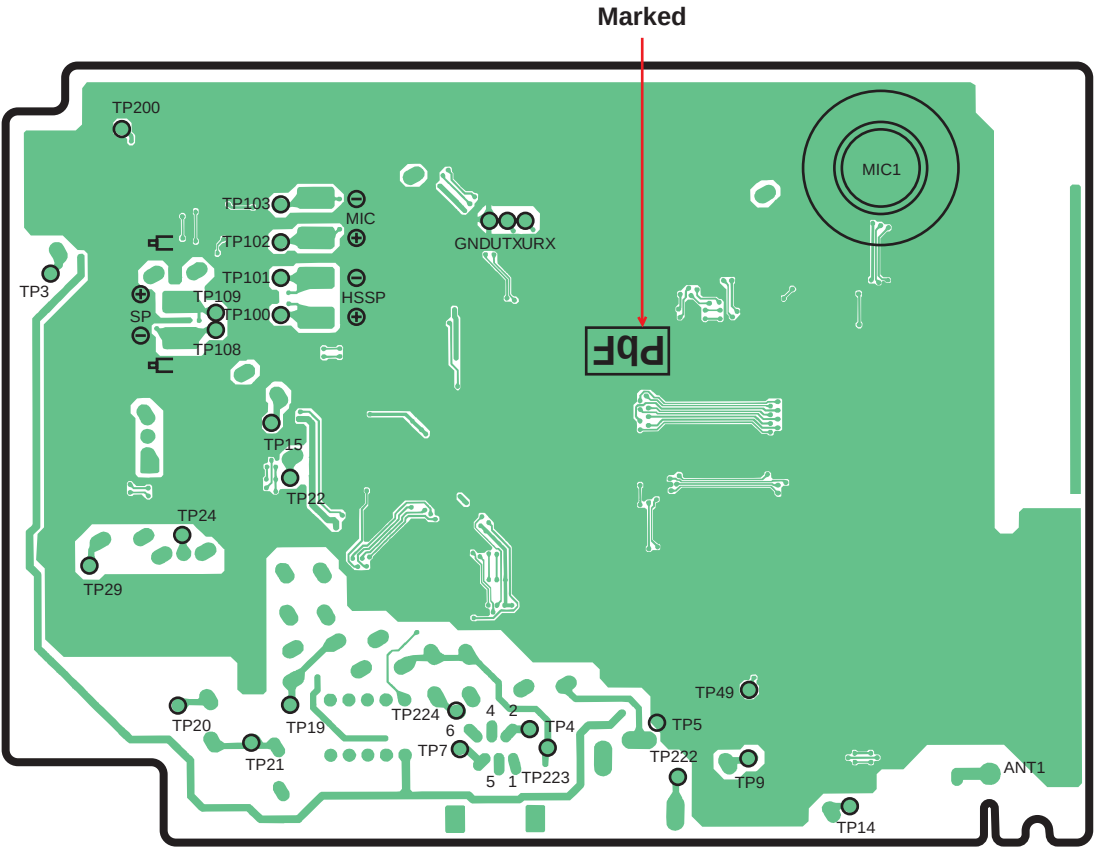



CIRCUIT BOARD (CHARGER UNIT) Component View




CIRCUIT BOARD (CHARGER UNIT) Flow Solder Side View


RFM1
11
1
18
28
IC7
48
25
1
24
IC2
66
65
39
38
102
103
1
128
IC6
23
22
44
1
PbF
Marked


Marked
TP200
TP103
MIC
TP102
GNDUTXURX
TP3
TP101
TP109
HSSP
SP
TP100
TP108
MIC1
PbF
TP15
TP22
TP24
TP29
TP49
TP20
TP19
TP224
4
2
6
TP4
TP5
TP7
TP222
TP21
5
1
TP223
TP9
ANT1
TP14